

## Byr

This must be the ultimate offer!! Order any Indi advertised products with a total value of over £ 100 , use them for 6 months and then pay today's normal Indi Price, No Interest, No deposit, No Strings Attached. All you have to do is fill in our application form and subject to status the products will be on there way to you. At the end of the 6 month period you will be asked whether you wish to have extended credit from 6 to 60 .Months* or pay for your goods in full and without any charges the choice is yours. Initially you will be asked to choose an extended credit period, however this can be changed to a different payment period or 6 months interest free payment in full.

## INDI DIRECT MAIL <br> is orginal and very exciting Before you buy mail order you must inst be

 conficent that you will receive the product you've ordered and that the supplier will still be there in the future, should you need them. A mail order purchase from INDI is a safe and secure decision and here's why. Indi is a wholly owned subsidiary of a public company now in its eleventh year of trading and specialising in the supply of computer products. Wievenu y year of urmover approaching 30 million per annum. IND have the With a group turnover approaching eso milion per annum, resources and the purchasing power to offer you the best deals, deiver them next day nationwide and always be around when you need us.Express Cheque Clearance
Simply write your cheque guarantee card number, name and address on the back of your cheque and we will normally be able to despatch your order the day that we receive your cheque. Cheques, received your order the day that we recerve your cheque Cheques, receved without a cheque guarantee
maximum 7 working days.

INDI TELESALES
TEL 0543419999 FAX 0543418079
$9 \mathrm{am}-6 \mathrm{pm}$ Monday to Friday
$9.30 \mathrm{am}-3.30 \mathrm{pm}$ Saturdays

## MICROVITEC MONITORS



This superb monitor offers a high quality 0.28 dot plech and low radiation total MPR-II complance
Complete with external Stereo Speakers and includes all leads-this is the moritor that we have all been walting for.

External
Speakers Speakers
Included Included

## Buy Today Pay IN 6 MONTHS No Deposit No Interest Charges

Order today and fill in our credit application form. Choose a payment period from 6-60 Months and you will soon be using your $S X-1$ for 6 months for Nothing. At the agreed date you choose whether to start the easy payment plan* or to pay for your $S X-1$ in full at today's price and without any interest charges - No Strings Attached. Applicants must be over 18 years of age and in full tume employment.

- APR 29.9

SX-I Expansion Module £195.99

| Expansion Options |  |  |  |
| :--- | :--- | :--- | :--- |
| BLACK KEYBOARD | $£$ | 45.99 |  |
| ZAPPO FLOPPY DRIVE | $£$ | 48.99 |  |
| *POWER SUPPLY | $£$ | 35.99 |  |

## *Power Supply

£ 35.99
*indi recomend the use of an additional power supply if more than 2 expansion options are anticipated

## SX-1 Super Bundle

SX-I Ex pansion Module
Black Keyboard
Zappo Floppy Drive
Power Supply

### 6289.99 <br> SAVE <br> $£ 36.97$

We said it would be good - we were wrong, it's amazing. The Amiga CD32 now comes of age with full Keyboard Floppy Drive, Hard Drive, Printer and Full Motion Video compatibility. Simply plug into your CD32 and the world of real computing begins. No longer a mere consul this is what new technology is all about * Real Time Battery Backed Clock * Serial Support * Parallel Port* RGB Interface * External Floppy Drive Port *IDE Interface Port

* AT Keyboard Interface. Upto 8 Mb 32 bit memory expansion (subject to FMV) *2.5" IDE Internal HD Expansion


## Amiga CD ${ }^{32}$

Once again Indi bring you the best deal in town with a full $£ 70$ off the fabulous SPECTACULAR CD32 Voyage Pack. Why so generous? lt's simple. The more CD32 we sell the more software you will buy and at Indi Prices who could blame you.
Amiga CD32 Comes with2 Great Games Microcosm and Chaos Engine and whilst stocks last Oscar, Diggers and Wing Commander. CD32 will play your favourite Music CD's

Competition Pro CD32 Control Pad
Competition Pro CD32 control pad. Why Competition Pro CD32 control pad. Why
not add a second control pad and really not add a sed

* Turbo fire and Auto Fire
- 8 way Superswitch
* Control pad for both CD games and f14.99


## Frontier Innovations Pack

Add a pair of our Quality Stereo Speakers to your existing Monitor. Indi Price E16.99

Sharp Monitor / TV


The superb Sharp $14^{*}$ Monitor /TV provides a real alternative to a Commodor Monitor with full function remote control 39 channel electronic auto search tuning, digital on screen display and 1.5 watt Mpo audio output. All you need to know is the low low price. The Sharp Monitor / TV is the product for you complete with scart socket and connectivity cable and including 12 months Warranty $\subset 169.99$


##  <br> £229.99

 Comes complete with* Amigal 200 * Frontier Elite II
* Batman Returns

Wordworth AGA
Print Manager

* Personal Paint V4
* Day by Day
* Total Carnage Brian the Lion Zool 2
Hard Drive Options
80 Mb Hard Drive Pack $£ 489.99$
120 Mb Hard Drive Pack $£ 519.99$
170 Mb Hard Drive Pack $£ 579.9$
12 Months At Home Warranty from ICL


## NEWNEW <br> THE NEW ZAPPO SMART STOR <br> The New Zappo Smart Stor provides games and data

Commodore 601
Trapdoor upgrade for the Amiga $600,512 \mathrm{~K}$.
INDI PRICE $£ 19.99$ portability never before available to the Amiga 600 and 1200 owner. Simply slip into the PCMCIA Slot on your Amiga and you have access to $\mathbf{2 0 M b}$ of Smart Storage. Want to run your Stored Games or Data on a friends Amiga, no problem, simply unplug the Smart Stor and you have Total Portability

Now
*20 Mb
Pay - in
£139.99 $£ 169.99$

* Fully configured * Superfast Access
...for its impressive price tag and the sheer convenience of being cble
* 12 Months Warranty
to plug in and go, the Smart Stor deserves to do very well indeed" ".....Smart Stor is a genuine godsend". Amiga Format July 1994


## 2 Mb Smartcard

The original and still the only fully PCMCIA compatible memory card for the A600 and AI 200. Comes with lifetime guarantee. Beware of cheap immitations. INDI PRICE $£ 99.99$

## 4 Mb Smartcard

Same as above but maximum 4Mb.
INDI PRICE $£ 155.99$

## Panasonic

##  ariton 1 <br> Whilst Stocks Last <br> Whilst Stocks Last

## Panasonic KX - P2|23



* Fast Printing Speeds, 192 CPS draft, 64 CPS LQ and 32 SLQ. - Colour Printing 7 Colour palette (blue, red, green, yellow, violet. * Quiet printing $\quad$ magenta, black) quiet 43.5-46 dBa sound level (most matrix - 7 Resident Fonts printers are typically in excess of 60 dBa a - 24. Pin Diamone Prestige, Bold PS Roman, Script and San Serif fonts.

Shaped Printhead High performance and high quality output

## Panasonic KX - P2I23

* 2 Colour Ribbons
* 2 Black Ribbons
* Mouse House
* Mouse Mat
* 500 sheets A4 Paper


## Panasonic KX - P4400

New Ultra - Compact LED Page Printer Announcing the Panasonic KX - P 4400 LED Page printer, the printer that fis virtually anywhere. Ultra small foot print $(12.7 \mathrm{~cm} \times 38.1 \mathrm{~cm}$ ex trays) and under 6.5 kg , this printer travels with you.

- 4 pages per minute of crisp. 300 dpi laser quality output.
IA 100 sheet, multi purpose paper tray
(A4, letter, legal and executive)
28 internal bitmapped fonts
HP laserjet series lip
1 Mb Ram expandable to 5 Mb 1600 copies per toner.


## Panasonic KX-P5400

Adobe Postscript LED Page printer now available. Specification as above plus *2 Mb Ram standard * Adobe Postscript level 2inc 17 Adobe Fonts *Optional AppleTalk interface available

$£ 759.99$

## Panasonic KX - P2023



Quiet printing
46.5 dBa standard mode, 43.5 dBa super quiet mode Fast Printing Speeds 192 CPS draft, 64 CPS LQ 4 Resident Fonts Courier, Prestige, Bold PS and script
2 Paper Paths
Top and Rear
I year Warranty
for total peace of mind

## FREE Autocut Sheetfeeder whilst stocks last

 Recently reviewed by Amiga Format "A fine 24 -pin dot matrix printer at a reasonable price.Buy from INDI AND SAVE OVER $£ 72$

## Printer Accessories

1) Printer Dust Cover
2) Printer Dust Cover Papsonic KX-2123 printer
3) Printer Stand
i) Priece printer stand
NDIPRE 69.99

## 3) Paper Pack

inoo sheers of quality A4 paper
4) Continuous Paper
iNDO sheets, Part listing paper
5) Parallel Printer Cable

Papasonic.printers
6) Panasonic Colour Ribbon Colour ribbon for KX-P2123 7) Panasonic Black Ribbon ingick pikfof or KX-P2123


## Indi Direct Mail Customer Charter

## INDI DIRECT MAIL is original and very exciting. Before you buy mail order you must first be

 confident that you will receive the product you've ordered and that the supplier will still be there in the uture, should you need them.A mail order purchase from INDI is a safe and secure decision and here's why. Indi is a wholly owned subsidiary of a public company now in its eleventh year of trading and specialising in the supply of With outer products.
With a group turnover approaching 630 million per annum, INDI have the resources and the purchasing power to offer you the best deals, deliver them next day nationwide and always be around when you need us.
YOURS FOR 6 MONTHS THEN PAY TODAYS RETAIL PRICE No Interest Charees, No Deposit,

No Strings Attached
SUBJECT TO STATUS


## SPECIFICATION

## * Satinprint

 (optimum resolution technology) $2 \times 200$ sheets)* Optional memory expansion to 5 Mb ( 1 Mb as standard)
* 5 pages per minute
* HP laserjet III emulation, PCL 5

WORDWORTH SOFTWARE
COMPLETELY FREE WITHKX - P 4430

16.99

IMPORTANT - PLEASE NOT:
NOP = will not work on 1500
Plus, A600 or A1200
NO12 = will not work on A1200 1 MEG $=$ requires I MB of RAM e = NEW Item

AMIGA A1200 VERSION GAMES
AIR BUCKSVI, 2 VOWEA ASSNUL





## 

## 

CANTON FODDER (IMEG




ARCADE POOL
CD32 9.99 AM 6.99

7.99

13.99


BENEATH STEEL SKY SENSIBLE INT'
15.49

### 22.49

A1200 WORDWORTH DEAL
-

| WORDWOATH V2 AGA WOAD PUOLSHER. NEW LOWPACE ( MAB EXTERNAL DISK ORHAAD DRIVEREOUIPED. WORDWOATH VJa AOA WORD PUBUSHER. THE LATEST AND GREATEET VERSION PACKACE, 12 MB, EXTERMAL DISK OR HARO DAIVE REOUIRED) |  |
| :---: | :---: |
| AMIGA APPLICATIONS |  |
|  | E2. Leeration |
|  |  |
| EASY TUTOHAL VEASION |  |
| Mos ( Me, nstaluale) .-. | Disposhate kino |
| AMOS. PROFESSIONAL MORE |  |
| Pewtion of eest selunio ol |  |
|  |  |
| (ider |  |
|  |  |
| S. Pmoressowal comple |  |
| M |  |
|  | PLE MIS |
| ITz Basic 2 EMNO NEW EAST MO | Javes pono 3 -0 |
|  |  |
|  | ABYRNTIO |
| UAGE AVALHOLL. | Lev |
| cuxe paint | Lotus |
|  |  |
| AND A TOP AWARD |  |
| and phintivg options and sample | (10w |
| TA |  |
|  |  |
| Luxt Paint a paint An Mamate |  |
| , INSTALLAEL) |  |
| ctory 0 |  |
|  |  |
|  | Sensibli soccen - wreanational |
|  | EDTON: |
|  |  |
|  |  |
| 2me |  |
| a baheara anim |  |



WEMELEY NTEANATONAL SOCCEA.. 190
WLDOP SOCER.
ZOOL2.
 MAXIPLAN A. COMPLETE SPREADSEET,

 ECTASK GOOD VAWE SIUPLE PC
BMLAORALOWNG BMPC

$\qquad$ PROFESSIOM, MS, iNSTALLAELE. .37.



DIGITAL VIDEO CD's aNOREW WOYD WERBER BEVEAY HIS SOEP(15)
 Thy Negrbouns
 PNRALL OREAMS ( MEG)
PNBAL FANTASIES


## 







## AMIGA EDUCATIONAL <br> SEE OUR COLOUR CATALOGUE

$\qquad$


AOF
COA
CUR

## 




SPACELEOENOS
EITE (TMESO MOER, MEGATRAVELER,




## 







## AMIGA A1200 VERSION

## 


AMIGA CD32

| SEGA MULTIMEGA PORTABLE MEGADAIVE \& MEGA CD. IT'S REALLYA SMARTPIECE OF KIT 325.99 |  | SUPERNES \& MARIO ALL STARS GAMES LIGHT GUN \& SIX GAMES. YESI SNES + |
| :---: | :---: | :---: |
| EGADRIVE GAMES |  | SUPER NES GAMES |
|  | Somc spinimi …...........299 |  |
|  | SpEEDAM2 ${ }^{\text {a }}$ | 99 |
|  |  | BAAKMGY MEILANS. |
|  |  |  |
| MAAT CAAS. - $\quad$ - 2999 |  |  |
| ORACON. | TEPMIMATOM. |  |
| (e) |  |  |
| ${ }^{12}$ CHAMPIONS - $\quad . \quad . \quad 4790$ |  |  |
|  | XEVON2 | ONGEBCOK* - |
|  |  |  |
|  |  |  |
| GOLDENAXE 2 - 10.9 |  | LeTHLL ENFOLCERS (WTH OUW) 64.99 |
| Weish |  | mo |
|  |  |  |
| hationk huaby | WITH EONC 2 COLUMNS, TENNS, | NALCATMACICE HOCKEY ... - .-. 24.929 |
|  | ADAPTOR |  |
| , | GAME GEAR GAMES | SENSACESOCCER |
| OSTMKEE |  | Sme ciry |
|  |  |  |
| Es, |  | \% $\%$ |
| CuMs supem hani onj. 1 |  |  |
| , |  |  |
| MaCHINES |  |  |
| JAM | - | worlo lmauk baskerbaili 1799 |
| HACKEV ${ }^{\text {P/ }}$ | SONCCHAOS |  |


AMIGA CO32 SPECTACULAR VOYAGE PAC PLUS TWO PACK INCLUDES ELTTE 2 ANO
VALLABLE ONLY WHEN YOU BUY A CDBS … ... JUST ADD ... 29.99

COMUOOORE
CONTROL PAD

sony gasayo

M.FAAUOIOLEAD-AMGACOBOST TO STEREO


## ontents



The essential guide to Amiga gaming

## System On－line

$\qquad$ 92
Team 17 hits the turbos，Empire go for goal and Daze are on the ball，plus a fantastic Gorgeous Gremlin Goody Bag Giveaway Competition！

Beat the System96

A 5 page complete guide to Core Design＇s superb Nordic RPG，Heimdall
2 courtesy of Simon＂Games Wizard＂Clays
Preview：CD32－Theme Park114

Jonathan Maddock takes a sneaky peek at Bullfrog＇s business simulator heralded as the Amiga game of the year

Preview：Sim City 2000116

Ever fancied becoming God？Well，now you can thanks to Maxis updated version of Sim City．Simon＂The Creator＂Clays takes a look

Competition：US Gold World Cup USA 1994－119
Courtesy of Birmingham＇s kindest software house，here＇s your chance to win loads of official World Cup USA＇94 merchandise

Feature：Stick it to＇em120

The System team rounds－up and reviews the
best joysticks that your money can buy
Feature：Out of Character
Why do game characters become household names and why do others just fade look at character design


System Essentials 124
Heimdall 2 on the CD32 and Eye of the Beholder 2 are both reviewed for those looking for some RPG thrills

## GAME REUIEWS

Elfmania ..... 102
Wild Cup Soccer ..... 104
Kick Off 3 ..... 106
Quik－The Thunder Rabbit ..... 110
King＇s Quest 6 ..... 112
Relliws
mpanficton41
A shareware animation player and converter that puts full price packages to shame
［D］200［оптвойн ..... 49
A1200 owners can connect CD capability to their machines via the PCMCIA slot
Phusernerm 3.0 ..... 61
One of the most powerful DTP packages has been updated and improved ..... 81Macro Systems＇latest display card promises to be the quickest．AC gives it a run
FeftulfesLIaHuwur Pht现
The UK version of the most powerful 3D creator is given a thorough analysisEntentanment USF46Matthew Phillips reports on the recent Consumer Electronics Show
Home Stulla 66
Midi＇s，mixing and audiotape－ Andy Bishop takes musicians by the keyboard


Ieul＇s 月ouctrie阿
Adam Phillips goes to Commodore UK＇s headquarters to talk to David Pleasance
Buranci on the fmica ..... 76
In the first part of our Blitz Basic 2 tutorial，we explain the use of windowsDeupre Delicht时


## Recullhfs

Dixons pull out of the Amiga market pending a review


Image FX previewed and Sidewinder inTexas


Why are the people who supported the Amiga being treated badiy?

Get the very best form the Amiga Computing CoverDisk

Upgrade to a complete package and save money in the process


Spleens vented and blood spilt as the readers reply


86
The very best PD and Shareware gets taken for a spin

| 1998絡 | MR.pH\% Paut Overa reveals how to create and replace macros |  |  |
| :---: | :---: | :---: | :---: |
| 1478.8. | Uiddg |  |  |
|  | musit <br> Sequence editing is scrutinised by Paul Overaa |  |  |
| 117\% | ${ }_{\substack{\text { Crmms } \\ \text { Phil South }}}$ |  |  |
| 149 䅋 | Phis Suth looks at wo new books on the Titeme | Up and Running | 130 |
| 151 | Publishing | Home Video | 134 |



Steuip Kennedu test renders lightwaue PAl, the most powerful 30 creator for the Amiga and
talks to the people behind Pobocop the series


## Turn to page 58

for details of the new Amiga books offer auailable when you subscribe to Amiga computing

# Software that matches your Hardware 

HiSoft BASIC 2
£79.95
Hisoft BASIC 2 is the new BASIC system for your Amiga, fully compatible with all Amigas from a Workbench 1.3 A 500 up to an A4000 tower system running Workbench 3.

This exciting package sets new standards for BASIC
programmers on the Amiga with full AGA and Workbench 3 support through the use of extensive and complete libraries.

This is the system for those who want to program real applications and utilities on their computer - a professional BASIC interactive compiler with an easy-to-use, multi-window editor and medium level debugger, producing super-fast, compact code in memory (for testing) or direct to disk.


The HiSoft BASIC 2 package runs on all Amigas with 1 Mb of memory or more and includes an extensive, 640 -page user manual with tutorials, many examples and a complete reference section.
Upgrades are available from HiSoft BASIC version 1 and Power BASIC - please call for details.

## Get the Amiga BASIC of the 90s today!





The best-value real-time video digitiser you can buy; VideoMaster gives you the ability to record real-time monochrome video with sound at 25 frames per second as well as quality full-screen stills from your camcorder or video recorder. VideoMaster RGB includes our new colour splitter, ColourMaster, and produces amazing quality colour stills. VideoMaster AGA works on the A1200 and A600, connects via the PCMCIA slot for extra speed and freedom to use other peripherals, allows high quality stereo sound and supports HAM6 and HAM8 up to $640 \times 512$ resolution for stills.


## ColourMaster

ColourMaster is a new electronic colour splitter which works in conjunction with teoMaster for stunning colour stills.

Clarity16 is our premier sound sampler allowing rates up to 32 KHz in 16 bit stereo and up to 48 KHz in 16 bit mono on an A500; accelerated machines can handle faster sampling rates. The software provides extensive features including full edit control, a MIDI keyboard emulator, a sample sequencer, many special effects and FFT analysis. Version 1.5 has an up-to-date Workbench 3 look, in its own window and is fully compatible with faster Amigas.


Megalosound is the new 8 -bit, stereo, direct-to-disk sampler package; the software is packed full of easy-to-use editing features, special effects and extras such as the ability to print waveforms and sample information. The package allows sampling up to 84 KHz mono and 56 KHz stereo to memory and up to 21 KHz stereo to hard disk on an A1200. Supplied with a hardware volume control and an extensive 144-page manual, Megalosound is impressive value at only $£ 34.95$.

Simulation


ProFlight comes complete with a professional, ring-bound, 190-page flight manual detailing all aspects of flying this exciting aircraft including a full tutorial and a history of the Tornado with archive photographs.

## ProFlight

The classic Tornado simulator that works on all Amiga computers and provides maximum realism while being tremendous fun to play.
ProFlight is one of the most accurate, and therefore most flyable, aircraft simulators currently available for home computers. everything is there from the correct effect of the tailerons, elevators and rudder through complete navigational aids with auto-pilot up to sophisticated weaponry such as Sidewinder missiles and fly-to-line bombs. The accuracy of flight is top-notch, try this test with your other favourite simulator - turn the aircraft on its wing tips; most will continue to fly straight and level the ProFlight Tornado will lose altitude, just like the real thing.

## Limited Special Offers

As a very special offer to Amiga Computing readers we have some amazing bargains, available only until 31 July 1994 while stocks last. Order by phone or by mail and quote $A C 794 Q Z$ when ordering; please add $£ 2 \mathrm{P} \& \mathrm{P}$.

Clarity 16
ter A500
c79.95
VideoMaster AGA
VideoMaster A500 RGB
VideoMaster AGA RGB
ColourMaster
C49.95
159.95

ProFight


## HiSoft

High Quality Software
The Old School Greenfield Bedford MK45 5DE UK. $\mathrm{Tel}+44$ (0) 525718181 Fax +44 (0) 525713716
© Copyright HiSoft 1994. E\&OE.

# Diнons dissent 

Dixons, owners of the electrical chain stores, have pulled out of the Amiga market indefinitely. With the uncertain future of Commodore, it would appear that the retail company is waiting to see the outcome of any potential buyouts before deciding to restock.
The situation is up for review as with any range, but the situation with Commodore is somewhat unusual", said Nicola Marsden, corporate affairs officer for the retail company.
On questioning Dixons about their future plans for the Commodore home computer and console range, Marsden added: "I couldn't give any commitment either way at this stage."
At Commodore's UK headquarters, David Pleasance, managing director, commented on Dixon's move: "It's very typical - Dixons have always been fine when they're friends with any manufacturer.
"Unfortunately, they have a nervousness about what is going to happen to the Amiga, so they sell off what they have in their stores and hold their breath, waiting until something happens. When the

## [hanges at the top

Following the downturn in Commodore's fortunes and its subsequent liquidation, it was revealed that Medhi Ali, president of Commodore International, has left. While other key figures have been relieved of their jobs by the administrators brought in after the bankcruptcy, many have been reemployed as advisors.
According to David Pleasance of Commodore UK, Medhi Ali has left the company "because his services were no longer required". The two individuals selected to replace him are Hock Tan and Ed Goss.
There is also some speculation at the moment suggesting that Commodore's litigation against FMG and Steve Franklin, the former director of the UK division, are being dropped. This however was strongly denied by David Pleasance.

> Medhi All: Now the former president of Commodore International

situation is good again, they return to the scene."
While, in the immediate future, Dixons' move may not bode well for Commodore's image in the eyes of the consumer, David Pleasance is confident about the eventual outcome: "I can't say I'm happy about what they are going to do... but I think it's a shortterm situation".


David Pleasance: "... it's a short-term situation."

> Commadore to saue [ommadore?

After months of waiting for a buyer to step in and rescue Commodore, Computer Trade Weekly, an industry paper, has revealed that a surprise buyout package created by current and former Commodore management may well be the business' most likely future.

The buy-out is said to have been formulated by lead figures in management, R\&D employees in the US and a component manutacturer. If they succeed in buying the company, it is unlikely that that Commodore's subsidaries will survive.

The end result of such a deal is that the once American business would operate and be registered in Britain from Commodore's UK offices in Maidenhead. Hopes are that the management buy-out would see a more stable and small company structure emerging from the ashes of bankcrupcty.

## Succers for Suluest

SyQuest Technology, suppliers of removable Winchester disk cartridges and associated drives, has settled its litigations with lomega Corporation and Nomai S.A.
Under a definitive settlement agreement, SyQuest will receive royalty payments from the two companies in exchange for a licence of certain intellectual property rights relating to SyQuest 44 MB and 85 MB 5.25 in cartridges.
Also, according to SyQuest, hardware produced by lomega and Nomai is being passed off by certain resellers as genuine SyQuest cartridges.
In some cases, lomega and Nomai resellers have advertised what appear to be genuine SyQuest cartridges, sometimes with the logo or pictures of SyQuest cartridge packing.
However, when customers examine the cartridges sold, they turn out to be lomega and Nomai cartridges instead.
To assist customers who have experienced damage to their SyQuest SQ555 and SQ5110 drives caused by the lomega or Nomai cartridges, the company will honour its warranties on the drives if lomega and Nomai pay for the cost of the repairs.
As a final sting in the tail, SyQuest will also sell its drives and cartridges to the two companies, who will be able, in turn, to offer dissatisfied customers suffering from damage by lomega and Nomai cartridges genuine SyQuest products as replacements.
"We're pleased to settle these litigations on such a favourable basis," said David Everett, SyQuest's executive vice president of sales and marketing. " lomega and Nomai have clearly recognised the superiority of SyQuest's Winchester technology.mn
"Our consistent legal position has been that manufacture and sale of cartridges by lomega and Nomai illegally infringed SyQuest's intellectual property rights. Our position has now been vindicated."


## IT:llf Bilff

## IIPC membership

The Independent Commodore Products Group is offering half year membership for six months up to the December 31 1994 for just $£ 12$ for potential UK members.
The 16 -year-old group offers a wide range of services including a journal concerning Commodore and PC issues, free public domain software, regional groups, technical advice, bulletin boards and discounts.

For more information, contact John Bickerstaff at ICPG on 081-651 5436.

## Show stoppers

The European Technology in Learning Show is appearing for the first time at the NEC and is targeted at both business and educational sectors. Running from the 16 to 18 November, the exhibition will cover a variety of subjects from the information superhighway to virtual reality classrooms.
For further details, call Julie Smith on 0254676025.

## Live

Live '94, the consumer electronics show, is being held at Earls Court from 20 to 25 September. The exhibition looks at not only computer games but television, video, photography and music equipment and more.
Tickets cost between £4-7 and can be pre-booked on 0891500103.

## Sweet tallk

Dragonheart Press have announced the 1994 Poetry Competition whith the winning collection being published in an edition of the Internet-based journal Living Poets.

Budding technobards should write to Sean Woodward at 11 Menin Road, Allestree, Derby, DE3 2NL for an entry form.

## Big bash

The BBC's Big Bash exhibition is coming to the NEC in Birmingham between the 6 th -9 th October. Featuring a series of six distinctively themed "worlds" for the visitors to walk through that include fashion, sports and entertainment, the BBC are promising the event to be "the ultimate interactive show".

Contact the ticket hotline on 021-767 4111 for entry prices and bookings.


The Crime Unit recently created by ELSPA to combat software theft has had its first success, with a private prosecution brought against pirateer Philip Richards. A private investigator working for the association discovered that Richards was illegally copying and selling games software.
The prosecution was brought following a visit by the investigator to Richards' home in December 1993. There, Richard copied and sold the ELSPA man four programs for the Amiga 1200. Police later raided the house and seized both computer equipment and over 2000 computer disks.

The magistrates at Kettering Magistrates Court in Northumberland found Richards guilty of breaching section 107 of the Copyright, Designs and Patent Act 1988. He was fined $£ 75$ for each of the four copied programs he attempted to sell, and was charged $£ 250$ costs.
Other successes are three raids carried out netting pirated CD software worth $£ 10$ million.
John Loader, chief investigator for the Crime Unit, said: "We warned that new low-cost CD-R copying equipment could potentially lead to huge losses for UK software producers and could lead to the distribution of high quality pornographic mate rial on CD.
"The retrieval of $£ 10 \mathrm{~m}$ worth of software on just 500 CDs perfectly illustrates the enormous threat posed to the commercial software industry."

Members of the public with information on illegal software should contact ELSPA on 0386833810 . All calls will be treated in confidence.

## Blue ribton pledges

Stateside company Blue Ribbon, makers of music and multmedia hardware and software, have promised to continue their support for Amiga owners in response to Commodore's recent liquidation.

Melissa Jordan Grey, Blue Ribbon's president stated: "I encourage [users] to get the most out of [their] Amiga investment. Our mutual support will ensure a bright future for the Amiga long after Commodore's issues have been resolved."

Blue Ribhon: Plodging
their support for Amiga
owners in the future


## Ulideo toaster and Robocop join forces

The new television series detailing the continuing adventures of metal law enforcer Robocop has recently finished its production cycle of 20 episodes.

Many of the visual effects within each show were created using a video toaster and an Amiga 4000. The graphics rendered and drawn include the interactive computer readouts on the monitors in the Robocruiser, in the Metro South squad room, and in the laboratories, among others.
"We also create the imaging in Robocop's visor for targeting, computer feeding and diagnostics," explains Lee Wilson, visual effects supervisor for the production," as well as the backgrounds for Diana's trip through Robocop's neuro-nets, and the original computer animation of the helicopter.
"In a merging of the two systems, the helicopter was built and animated in the computer using the Toaster and Lightwave 3D program and flown over Delta City."

Stephen Downing, executive producer of the series, explains how the Amiga 4000 ended up as part of the crew on the most expensive series produced in Canadian television history:
"Shortly into production Lee came to us and asked if we would buy this incredible piece of computer equipment. It was not in our budget, but we talked it out and SKYVISION decided to support the department, hoping the added computer would pay for itself.
"A few days after the toaster arrived I came into work to find the entire visual effects crew still in the department after pulling an allnighter. The outstanding work they delivered saved the production time and money, creating elements we didn't have to sub-contract to other companies."

The series itself has already been syndicated to 110 countries worldwide and, for British Robocop followers, the intention at the moment is to release the series straight on to video and then to sell it to television.


Robocopt Amiga technology at the cutting edge of television production

## Viper 68030

## VIPER 68030 TURBO I

For the Amiga 1200 computer Full 030 with MMU running at 28 MHz FPU running up to 50 MHz Industry standard 72pin Simms RAM upgradable to 8 MB

- Full Kickstart remapping (FastR0M option) Optional SCSI-II adaptor 68882 Maths Co-processor On-board battery backed clock Faster than an Amiga 4000/030 Up to a $440 \%$ speed improvement


VIPER I
Standard ..... f159
Viper I 2MB (no FPU) ..... $£ 239$
Viper I 4MB (no FPU) ..... $£ 309$
Viper I 8MB (no FPU) ..... $£ 479$
CO-PROCESSORS$£ 25$
33 MHz FPU ..... $£ 60$
40 MHz FPU ..... $£ 80$
50 MHz FPU ..... $f 120$
SCSI-II Adaptor ..... $\Varangle 79$

## Power Drives

## XL 1.76MB DRIVE

The XL Drive can be used with any Amiga Computer, and allows you to store a massive 1.76 MB on a high density disk. The drive also acts as a standard 880 K drive and can read and write A4000 high density disks.

XL Drive 1.76MB External ........
$£ 89.95$
XL Drive 1.76MB Internal .......£79.95
XL Drive 1.76 MB Internal A4000 $\ldots 89.95$

## INTERNAL DRIVES

We use the same drive mechanisms as Commodore.

PC881 A500 Internal drive ............ $£ 40$
PC882 A2000 Internal drive .......... $£ 40$
PC883 A600/1200 Internal drive . . .... $£ 50$

All prices include VAT and are subject to change without notice. Prices correct for month of publication only. Delivery extra. E \& OE
$€ 60$


POWER DRIVE
The Power Drive is the most impressive drive of its kind on the market and now includes Blitz Amiga and Floppy Expander. Floppy Expander allows you to compress files only on floppy disks by up to $50 \%$.

## SPECIAL OFFER

*For an extra ten pounds Cyclone copier can be purchased with the Power Drive.
Floppy Expander (Purchased separately) $£ 9.95$

POWER DRIVE FEATURES

|  | Power | Amitek |
| :--- | :--- | :--- |
| Anti-click |  |  |
| Anti-vinus |  |  |
| Floppy Expader* |  |  |
| Sony mechanism |  |  |
| Isolation switch |  |  |
| 2 year guarantee |  |  |
| Thru'port |  |  |
| Upgradable to 1.76MB |  |  |
| Cyclone compatible chip |  |  |
| Built-in backup hardware |  |  |
| Amiga Format Gold |  |  |
| Blitz Compatible |  |  |
| Disk drive modification by Sony |  |  |
| to stop flickering LED |  |  |

14. 

Beware, flictering LED's an your disk drive mean that the drive has not been modified by Sony for $100 \%$ Amiga compatibility.

## [ompuserue seruices and membership are growing

According to details released by the American-based on-line service Compuserve, membership in Britain is growing at the rate of more than 1,000 per week and is currently in excess of 48,000 .
"More and more people are finding out what we early on-line members know - online services are key resources," said Cheryl Currid, who monitors the on-line services market for Currid \& Company.
"It doesn't surprise me to see the masses discover the benefits of on-line services. I just wonder why it took them so long."
After the announcement of further services specifically aimed at the UK market, the PA News wire is now available providing, up-to-the-minute news in several categories including general, financial, sports and parliamentary, law and royal reports.
At election time PA On-line will include a special category for results of local and national contests.
Clive Marshall, sales director of PA News added: "Every national newspaper and broadcaster uses the PA service of news and sports information. Now Compuserve users can access that service directly and read stories that broke just a few seconds ago."

The on-line service has also introduced the Video Game Publishers Forum and Video Games Forum. Through these new services, Compuserve members can see previews of new games for the CD32, talk strategy and receive hints, tips and shortcuts on their favourite games.
The Video Games Publishers Forum provides an opportunity to interact with publishers such as Accolade, Spectrum Holobyte, Konami and Data East.

Customer support representatives and game designers will be on-line to provide news, product announcements, game codes, screen samples, sound files and more.

The Video Games Forum is a special interest group of players using the CD32 and other consoles. Here, the players can discuss the merits of various hardware and exchange reviews, commentary and playing tips with their fellow enthusiasts.
"There's a lot of excitement in the gaming world about inter-console connectivity," said Compuserve product marketing associate Jim Pascua.
"By participating in our forums, players can get the latest news on this and other subjects, as well as make the most of the gaming technology they already have."

For further details, call Compuserve on 0800289378.

## CompuServe

[^0]
## Amiga user wins multimedia prize

A 17 -year-old school pupil, Mark Holmes from Dundee, has won an Individual Award in a national competition organised by the NCET (National Council for Eductaional Technology) for his Amigabased animation work. Holme's submission consisted of a hand-drawn animated title sequence, introducing the subject of surrealism.
The work was produced on a 1200 with the aid of Deluxe Paint 4. Holmes added: "Buying an Amiga is a good choice. It's an excellent tool within the price range of a novice or amateur."
The reward for his artistic efforts is a Philips CD-i that will be given to the Kirton High School where he studies.

## Protent improvements

To celebrate Arnor's 10th birthday, the company is releasing Protext 6.5, an upgraded version of their successful word processing package. The highlights include a graphical print preview, improved spelling checker, Auto-Correct spelling and an automatic expansion of abbreviations among others.

The price of the Protext 6.5 has been reduced by over $50 \%$ to $£ 99$ and owners of the previous versions, can upgrade at a reduced rate. Contact Arnor on 073368909 for more information.

## Premier prices

Premier Vision has announced the arrival of the Premier Nevada and Premier Nevada Plus Broadcast Systems. The former gives full non-linear digital audio eight-track recording with broadcast quality video for $£ 5,999$ and features a 1.5 Gb hard disk and 6 Mb of RAM.

The Nevada Plus has the addition of Lightwave 3, the award winning Bars and Pipes Pro 2.5B, Multiframe and Art Department Professional. The package retails at $£ 6,999$ and includes one day of training.

Finally, Premier Vision has announced a reduction in price for the Sunrize AD516 non-linear hard disk audio recording board from $£ 1299$ to $£ 999$.

The AD516 board provides automated cross fading, instant on-screen editing and full drag and crop cue list manipulation.

For further details, contact Andy Bishop or Andy Gould on 071-721 7050.


Individual award: Winning Amiga-based entry in national competition

## Purchasing promise

Indi Direct Mail has launched a purchasing scheme to entice consumers and existing users into the Amiga market. Indi says that any customer who buys any product with a value of $£ 100$ or more can use it for six months and then pay the price without any interest charges.
"The only criteria for this amazing scheme is that our customer fills in a credit application form, selects a payment period and passes our normal credit checks." Commented the mail order company.

Indi Direct Mail can be contacted on 0543419999.

## Blittersoft <br> deuelopments

Blittersoft is now shipping the new Picasso Video Encoder, PABLO, with all cabling supplied, as well as a full version of the MainActor animation software. The package is retailing at $£ 149.95$.

Also available is the Ariadne, a fast ethernet Zorro II board that offers two additional parallel ports. Costing $£ 249.95$, the system is compatible with SANA II and comes supplied with the Commodore licensed ENVOY software.

Two upgrade kits are available for owners of the Amiga who wish to upgrade to the official Commodore 3.1 ROM. For the A500/1500 and 2000, users can expect to pay $£ 84.95$ and for the A3000/4000 kit, $£ 94.95$.

For further details, call Paul Lesurf at Blittersoft on 0908220196.

# Zappo Amiga I200 CD ROM DRIVE 

Whr morcts of conjecture the product that Amigg owners have demand ef a here The Zuppo Smart Drive simply slots into the Amiza 1200 Double Speed. Mutti Session CD ROM M' Photo CD Double Speed, Multi Session CD ROM * Photo CD Computible * Plays CD + G music CDs and Graphics CDs * Mix CD and Amiga Audic Output

FREE
FREE
ZAPPOT-SHIRT The level of software compatibility that has been achieved is very
aprestive. Whatever your CD - ROM needs, the Zappo Drive notestive Whatever your CD

Plugs into the PCMCIA Slot of the Amiga 600 \& 1200 the Smart Stor Plus has it's ow 12 V supply and is ready to go. Excellent build quality at an amazing price. 12 Months Warranty
130 Mb $\qquad$ $-£ 249.99$
170 Mb
£274.99
250 Mb £294.99
340 Mb £344.99

## Niw Low Price IDE Initinal Hard Drives

Ind an now offer top qualicy $25^{\prime \prime}$ Internal Hard Drives for the Amiga 600 and 1200 at unbeatablé $80 \mathrm{Mb} 25^{\prime \prime}$ Internal HD's $£ 169.99$ I20Mb $25^{\prime \prime}$ Internal HD's $£ 214.99$ $170 \mathrm{Mb} 25^{\prime \prime}$ Intermal HD's $£ 249.99$


Zappo External Floppy Drive


You've seen all the reviews on this popular and affordable second Amiga drive. mparible with all AmigasQuality 9 O 0. "Exceptional value for m
Amiga Computing E48.99

Amiga Replacement FLOPPY DRIVES

## Amiga 500/500+ 600 and 1200

## £34.99

## YBAR END STOCK CLEARANCE

It is our Year End and our warehouse spring clean means unrepeatable bargains strictly whilst stocks last
MBX 1200z Memory Expansion Boands I'M1230 Accelerator Boards


Brilliance "Brilliant " Graphics Paint Package " In terms of design and sheer specifications Digital Creations really seem to have done everything right. Effectiveness..." 99\%." I really can't fault the end results" - CU Amiga Review
INDI PRICE 699.99 人1499\%
Final Writer The most powerful word processor to grace the Amiga...90\% - CU Amiga INDI PRICE 699.99 CH29.99
Final Copy 2 "About as close to being a desktop publisher as a word processor dare go" CU Amiga INDI PRICE 662.99 6899
Morph Plus
You've seen Michael Jackson's video, you've seen the television adverts using the latest techniques
in morphing, now you can create the same results but at a fraction of the cost.
INDI PRICE $£ 99.99$
Art Department Professional V2.5
The ultimate in image processor. With ADPro you can read, write and convert between most
common image file formats with unmatched flexibility. INDI PRICE f 119.99
Real 3D V/2
Is a fully featured 3D animation modeling and rendering program. INDI PRICE $\mathbf{6 2 9 9 . 9 9}$

OPAL VISION MAINBOARD

## Rombo Audio Visual Products

Megamix. Low cost, hi spec digital effects cartidge plags into the printer port of the Amiga. Allows Hereo sampling from almost any musical source INDI PRICE $£ 26.99$
Take Two. Animation package is a must for computer artists and enthusiasts of all ages. As used in Rolf Harris Cartoon Club. INDI PRICE $£ 34.99$
Vidi Amiga 12. The ultimate low cost colour digitiser for the Amiga. "the best value fuli colour digitiser on the market". - Amiga Format.
INDI PRICE 669.99
Rombo Vidi Amiga 12 (RT)
Based on the best selling Vidi Amiga 12. This all new version offers real time colour capture from any video source. Full AGA chipset support as standard for all AI200/A4000. INDI PRICE C129.99
Rombo Vidi Amiga 24 (RT) Plus FREE Power Supply
For the more serious user, this 24 - bit version will again capture from any video source with true photo realistic images! A staggering 16.8 million colours can be utilised with incredible results. Full AGA chipset support.
INDI PRICE E219.99


The Opal Vision mainboard includes Opal Paint, Opal Animate, Opal Presents and Opal Hotkey.

## FREE Montage 24

THE Best selliing "Real Time" professional Video Titling software
For a limited period from 10 April until 30 june we will be giving away a FREE copy of Montage 24 worth 300 U.S Dollars. Montage 24 features Real Time font scaling, embossing and shadowing. colour spreads and transparency effects with an effective resolution of I nanosecond. Its many image processing capabilities include translucency blending, image compositing and beveled boxes. Now you
can enjoy the benefits of the ultimate in high quality 24 -bit titling for OpalVision and the Amiga.

## Limited Offer <br> £349.99 <br> includes FREE <br> Montage 24

Opal Vision Video Processor
We have received confirmation that the OpalVision Video Processor with
 Roaster Chip and the Opalvision Video
Suite samples will be with us within Suite samples will be with us within weeks and volume supply will arrive
early summer.

## early summer.

Video Processor Module

## £899.99

This Superb A4 Amiga Scanner voted "Amiga Shopper Best Buy", arrives complete with Merge IT and Micrograph OCR Software. Merge IT allows the simple, quick merging of two on-screen images and Micrograph OCR turns your Amiga into an efficient text reading system.Amiga 500/500 plus /A600/AI $200 /$ /A $500 / 2000 / 3000 / 4000$

- Minimum IMb memory * Minimum 2 Mb memory \& a Hard Disk to run OCR option.

Kickstart, Workbench VI. 2 or higher


Alpha Scan PlusWich OCR sotware

## PACE MODEMS The No. I in Telecoms

The MICROLIN FX.
Everything you need in a Fax Modem.
Simple to set up and use Universally compatible 100\% accurate data and Image transmission

The MICROLIN FX 32 PLUS
The high powered performer. *High Speed Group 314400 bps and 9600 bps fax facility transferring an A4 page in seconds. *V. 42 / V. 42 bis error correction and data compression a great money save when you have volumes of data to transmit.
2269.99

# Euolution of an image 

## USA -

 Denny Atkin ehplores the powerful potential of ImagefH0ot on the heels of ASDG's major ADPro 2.5 upgrade is ImageFX 2.0 from the folks at Nova Design. Although the program doesn't look that different on the outside, the underlying engine has been souped up considerably.
It's like putting a 5.0 litre Mustang engine under the hood of an Escort - it doesn't really look different, but it's likely to leave competitors in the dust.

I've had the opportunity to play with a beta test version of the program and am quite impressed. Keep in mind that as this was written it was still over a month from release, some of these features might change, and other features could be added at the last minute.

Memory permitting, you can now work with multiple image buffers. Thanks to ImageFX's virtual memory support, you should find it easy to work with multiple 24-bit images simultaneously.
Both common and esoteric graphics formats are now part of ImageFX's repertoire, including PICT (bitmap and vectorl), PhotoCD, PIC, Sunraster, Silicon Graphics, X-windows, Wavefront, GL and DL animations, and even C64 Koala!
A Datatypes loader is also planned for AmigaDOS 3 users. Animators will be ecstatic to learn that ImageFX 2.0 will include an Mpeg digital video player, decoder, and encoder. (This is the format used by the CD32 FMV module.) Support is also planned for limited loading and saving of QuickTime animations.

The program's painting abilities have been greatly improved. Paper textures let you make it appear as if you're painting on canvas or a textured surface, similar to the effects available in Fractal Design Painter for the Macintosh.

This effect is heightened when using the new watercolour, crayon, chalk, and colour-mixer draw modes The air brush is improved, with real-time response,

increased size and the ability to control fading in and out. New gradient fills are also available, including brick tile, swirl, and wheel fills.

You can preview a number of effects, such as Convolve, Twirl, Rotate, and Apply Texture using the new thumbnail feature. Other effects, such as Relief Map and Transform, have been greatly improved, with better interfaces and more ARexx control.
New effects include Jiggle, Pebble, RampEdge, Lightning, Spherize, 3-D Rotate, and Straw.

## [RIPPIIG

Selecting portions of an image is now easier thanks to the addition of moving, "crawling-ant" outlines. There's a fantastic new autocrop feature - just select the edge colour and the program will crop the edges of the image until no more of that colour remains.

Colour correction between NTSC and PAL systems is now provided, which will come in handy if you're creating professional output to be sent over seas.

Text capabilities are greatly improved. First and foremost, you can actually enter multiple lines of text

ImageFX 2.0 supports texture effects that let you simulate images on textured paper or canvas. This P-40 fighter was originally a digitized photoThis P. ImageFX 20 was used to crop it, then the graph. ImageFX 2.0 was used to croper texture
OIlPaint filter was applied and a paper tex OilPaint filter was applied and
added to the resulting image.
instead of having to create text a line at a time. You can justify text, and anti-aliasing will eliminate jaggy pixel edges around fonts.

The update should be available about the time you are reading this. Pricing wasn't available as this went to press, but if you're currently an ImageFX user you'll find this update worth whatever price Nova Design asks.

You may remember that ImageFX 1.0 and 1.5 were released by GVP. When the contract came up for renewal, Nova Design, who created ImageFX, and GVP agreed to let the rights to the program revert back to Nova.

Nova will still support GVP buyers and offer upgrades to those users. In fact, Nova's Kermit Woodall promised that the company will endeavor to offer better technical support for ImageFX, and that they have some hot plans for the program's future despite Commodore's current situation.

IFX 2.0 should be available soon after you read this Nova hadn't firmed up UK distribution at press-time, so check with your local dealer, or contact Nova via e-mail at kermit @cup.portal.com via Internet.

## Sidewinders in Tehas

One of the best ways to show off your Amiga to your non-computer friends is to play some MOD music files for them. But sometimes it's hard to get them to even come over to the computer to listen.

Thanks to one of America's premier Amiga MOD maniacs, you can now clandestinely impress them by popping some Amiga music into your CD player. Let them dance to a few tunes, then tell them they were created on your favorite computer. Future Shock 2- is the first CD from San Antonio, Texas-based Eric Gieseke. The 25-year-old musican is better know to Amigans who've heard his MOD music files as Sidewinder.

All of the tunes on the compact disc (which is purely an audio CD - no computer, CDTV, or CD32 required) were created on an Amiga 2000 with 3 MB of RAM and a Perfect Sound sound sampler.

You'd never know it listening to the songs, though. The fast-paced, crisp, digi-tally-mastered music sounds as good or better than many of the techno or rave titles you'd pick up at the local Virgin or HMV shop. Most of the songs, such as

After Shock and Reflects, are emininently danceable, while a few, such as the atmospheric Rainy December, slide you more into the smooth intricacies of his composition than into the beat. (Sidewinder calls his music style "techno+rave+tribal+synth +jazz..")

At $\$ 12.95+\$ 5$ airmail shipping and handling, _Future Shock 2_ is a heck of a deal. How many Amigarelated products can be used to show off your computer's capabilities, provide wonderful background atmosphere for your computing, and can be danced to as well?

To order, send a money order to Sidewinder Productions, 8611 Cape Valley, San Antonio, Texas 78227 USA. If you have questions, you can e-mail Sidewinder at c.gieseke@ genie.geis.com or call him at (210) 675-7592.

AMIGA

## AMIGA 4000 SPECIFICATIONS


meze deinear N UX Muncuo
ymsume

AMIGA 4000
CONFIGURATIONS

FOR ALL AMIGAS

| FOR ALL AMIGAS <br> Aimm Dor Ptch 14' Cobar Sesent <br> - 600 dets $\times 2$ 2as lies mesolution - 15.7500 <br> Anubg Ras, Otigi Th, ms Congotito Vhem <br> - Exturs Control $\square$ <br> Volune Grem Subth Buhtiess Hatimstal shit <br> Soreo Sound wit $\square$ | FOR ALL AMIGAS <br> FAEE STERED SPEAKERS a CABLE FOR CONAECNOW TO TKE AMIGA MICROVITEC 1438 MONITOR <br> asmon Dos Pioh $10^{-}$Ootror Sciene <br> 15-3woter Hort F wequascies <br> Enternal Contols <br> FAft DRLMVRY A Brghtases, Contuat. Hinlrotri anf Varticat $\qquad$ CentringHolgh E2S $\square$ |
| :---: | :---: |
| TV/MONITOR <br> FOR ALL AMIGAS | CD-ROM DRIVE <br> FOR A1200 |
|  |  |
|  |  <br> - Mug inm the PCMCVA part -RAM <br> Features mbeumi Fxoot Dual Speed Drie <br> - Ruods cose 1900 Hrs (Mace CDs <br> - Includes CDSe omporion athere PUS Sotway fo play Aodo CDe end Vies Kodek Photo CDs FREF DELIVERY in and olur al tested requenerts <br>  |

$\overbrace{2}^{\circ}$

## THE SILICA SERVICE

Before you decide when
to buy your new computer, lo buy your new computer,
we suggest you think very we suggest you think very
carefly about WHERE you buy it. Consider what It will be ike a few morths ater when you may require adotionai pericherals or
 Slica. we ensure hat you wilt have notting to wory about. Whi our unrivaled euperlence and expertise. we can meet our customers' requiements with an understanding which is second to none. Complete and
retum the coupon now tor cur latast FREE Iherature and


- PREE OVERNICHT DELVERY

On ali hurdware orders shipeed inthe UK mainlany

- TECHMCL SUPPors MELPLNE:
- PRICE March.

We match comportiors on a Same product- Same price

- ESTABLISHED 16 YEARS:

ESTABLISHED 16 YEARS:
 Wth our 300 staff-We are solid, reiable and profitabie - BUSDESS + EOUCATION + GOVERNMENT
Volume discouts are anilatie. Tet: $61-3 t 8$ cese.

- SHOWHOOMS: THE FULL STOCK RANOE
Al of your compoter requiremerts are waliatle from one speciaist suppler. Wil be mailed to you with special nducad prica others, a well as details on all software and poripterlis
PAYMENT:
 STLCA


## MAIL ORDER 081-309 1111

| BRISTOL | PLUS BRANCHES AT: barhams - Oudfanti, St James Ba |  |
| :---: | :---: | :---: |
| CARD | Deterhams - 45-50 St. Ozid'sWay | 0222399789 |
| CHELMSF | Deberthers - 120 feet 27 | 0245355511 |
| CROYDOM | Debathans- [20 foori 1131 North Ex | 081-688 4455 |
| GLASGOW | Debarhams - [st Auark, 97 Argyla | 041-221 0088 |
| GUILDF0 | Deberhums - adAosl, Mibrock | 0483301300 |
| HULL |  | 048225151 |
| PSWICH | Debathams - Des feat. West | 0473221313 |
| LONDON | 52 Tottinhtam Cout Roas | 071-580 4000 |
| LONDON | Deberhams - an med 334 Orford | 071-493 3735 |
| LONDON | Setridyes - (turne deal 359 Offord | 071-629 1234 |
| LU | Deborthams - (in heed Anstit Certit | 058221201 |
| MANCHES | Debarhams - as Axel, Market Stre | 061-832 8565 |
| PLYMOU | Deberhams - av fued. Rojal Pa | 0752266666 |
| SHEFFIELD | Debarhams betisul. Te Msor | 0742768611 |
| SIDCUP | 1-4 The News, Hatherley floas | 081-302 8811 |
| SOUTHAN | Debentums-(tithoal. Oustnsway | 0703223888 |
| SOUTHEND | Katdies - Dev floth High Strat | 0702468039 |
| HURROCK | Debarhams - (it Hoed Lakaside Carite | 070 |

PLEASE SEND ME AN AMIGA CATALOGUE
Mr/Mrs/Miss/Ms: ............... Initials
Sumame:

Company of apkaz*:
Address:

Postcode:
lel (Home):
(Work)

## GRADE A DISKS SPECIAL 1 MONTH ONLY

## LOWEST PRICES

## BEST SERVICE

## RAPID DELIVERY

## SALES HELPLINE 0816869973 ／ 0817811551

## CRAZY DEAL 1 MONTH＋LOCKABLE <br> 100\％CERTIFIED ERROR FREE GRADE A

| 50 3．5＂DS／DD．．．．．．．£18．50 | £2＋．99＋100 cap | 50 |
| :---: | :---: | :---: |
| 100 3．5＂DS／DD ．．．．．．．． $\mathrm{E}^{31.50}$ | ． $235.99+100 \mathrm{cap}$ | ababe box．．．．．．．£35．50 |
| $1503.5{ }^{\text {L }}$ DS／DD ．．．．．．．$¢ 45.50$ | ． $554.75+100 \mathrm{cap}$ | box．．．．．．． 553.50 |
| $2003.5{ }^{\text {n }}$ DS／DD ．．．．．．．． 557.50 | ． $566.99+2 \times 100$ | 1.50 |
| 300 3．5＂DS／DD ．．．．．．． 884.50 | ． $599.99+3 \times 100$ | £96．50 |
| 400 3．5＂DS／DD．．．．．．．$£ 110.50$ | ． $5132.99+4 \times 100$ | £126．50 |
| 303．5＂DS／DD．．．．．．．¢133．50 | ．$\$ 149.99+5 \times 100$ | ． 50 |
| 000 3．5＂DS／DD．．．．£260．00 | $5269.99+10 \times 100$ | £299．00 |

FREE LABELS＋FREE DELIVERY BY PARCEL FORCE

| 3．5＂DELUXE LOCKABLE BOXES | 3．5＂STACKABLE BOXES |
| :---: | :---: |
| 40 | 100 Cap Addup．．．．．．．．£8．99 |
| 100 Capacity ．．．．．．．．．．£3．99 | 150 Cap Posso．．．．．．．£16．00 |
| Add £3．10 P8．P． | Add £3．10 P\＆P |
| 1003.5 ＂HIGH DENSITY BULK DISKS £4 |  |
| AM囘 $A^{\text {a }}$ |  |
| ES PACK：MICROCOSM，CHAOS |  |
|  | Compeetion Pro Pod．．．．．．．．．．．． 15.99 |
| Imeti，Wing comma | 100 games ．．．．．．．．．．．．．．．．．．．．． 119 |
|  | SX1 Modulor Exponsion．．．．．．．．． 8189.99 <br> Gunship 2000 <br> 19.99 |
|  |  |
|  | Furys of furries． |

## AMIGA 1200 PACKS frit 4 samis with all packs

RACE＇N＇CHASE
DESKTOP DYNAMITE Or NEW PACK
Nigel Monsells + Trolls
$£ 289.99$ COMBAT PACK

ADD $£ 10$ Cleaner， 40 Cap lockable box

### 2309.99 ｜ 2339.99

FREE Mouse mat－Disk Cleaner－Joystick Syndicate，Chaos Engine，Nick Faldo＇s Golf，Pinball $85 \mathrm{Mb} . . . . . . . . . . £ 429.99 \quad 85 \mathrm{Mb} . . . . . . . . . . . £ 475.99$ 127 Mb ．．．．．．．．．．$£ 475.99 \quad 127 \mathrm{Mb} . . . . . . . . .5524 .99$
Authorised Deolers－lyr，at home service FREE DELIVERY

| RAM UPGRADE \＆MATHS ACCEEERATOR |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| AMITEK HAWK for AMIGA 1200 FREE DELIVERY |  |  |  |  |
|  | No | 33 簅 | 40 傕 | ${ }_{\text {mCid }}$ |
| 1 Mb Ram | ¢99 | $£ 157$ |  |  |
| 2 Mb Ram | $£ 137$ | £197 |  | $\underline{117}$ |
| 4 Mb Rom | $£ 197$ | £257 | £295 | 8176 |
| 8Mb Ram | $£ 389$ |  | $£ 489$ |  |

TOP QUALITY RIBBONS

|  | Block |  | Colour Branded |
| :---: | :---: | :---: | :---: |
| P1124／1123／1180／1080 | 8．50 | 3.30 | N／A |
| 23／2180 | 8.15 | 4.00 | 15.45 |
| ／5witt 9／24 | N／A | 270 | 13.60 |
| 90／200 | N／A | 270 | 13.60 |
|  | N／A | 295 | 10.99 |
|  | N／A | 3.50 | 12.30 |
| ／24200 | N／A | 3.50 | 12.50 |
| LQ100 | N／A | 4.00 | N／A |
| Add $£ 2$ for | Delliv |  |  |

## SMART BUY

STARTING PACK £14．99 FOR：
10 Disks，Mouse Mot，Microswitch Joystick， Storage box，Disk cleaner

Add £3．10 P\＆P


## AMIGA CABLES

| Amiga to Sony TV．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 10.99 |  |
| :---: | :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

## DUST COVERS

Amiga 1200／500／500P／600 $\qquad$ Commodore／Philips monitors． $\qquad$ $\ldots 4.00$

## INKJIT CARTRIDCES \＆REFIUS

HP Deskijet Black Duol Copacity Cortridge．．．． 522.99 HP Deskjeet Block Dual Copacity Refill，．．．．．．．．． 515.99 HP Deskjet 500 C C Colour Cortridges ．．．．．．．．．．． 525.99
 Connon BJ 10 e／ex Black ink Cortridges．．．．．．．．16．99
Connon BJ $10 e /$ ex Black ink Refill．．．．．．．．．．．． 89.99 Connon BJ $10 e /$ ex Black ink Refill．．．．．．．．．．
Add $£ 2$ for Delivery

## AMIGA A4000 DESKTOP

## 030EC／4Mb RAM OHD．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 859

$030 \mathrm{CC} / 4 \mathrm{Mb}$ RAM 214 HD ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 030EC／4Mb RAM 540HD．．．．．．．．．．．．．．．．．．．．．．．．．．．$\quad 1269$ $040 \mathrm{LC} / 6 \mathrm{Mb}$ RAM 214HD $\quad \mathrm{E}$ …．．．．．．．．．．．．．．． 1599
 040 TW／6Mb RAM 21 4HD．．．．．．．．．．．．．．．．．．．．．．．．．．．．$£ 1940$ $040 T \mathrm{~W} / 6 \mathrm{Mb}$ RAM 525 （SCSI III）．．．．．．．．．．．．．．．．．．$£ 2249$

## AMICA 600 free jorstick

Zool Pack＋Photon Paint II＋GFA Basic v3．5 ．£193．99 FREE DEIVERY

## PRINTERS

＊FREE Word Processor，lead，dust cover，printer stand， $500 \mathrm{A4} 80 \mathrm{gsm}$ paper，delivery ＂Panasonic 212324 pin Colour ．．．．．．．．．．．．．．．．．．．．．．．． 189.99 Cifizen ABC 24 pin colour．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 159.99 Cifizen Swift 20024 pin colour ．．．．．．．．．．．．．．．．．．．．．．．．． 186.99 Panasonic 202324 pin mono＋sheet feeder．．．．．．$£ 149.99$ Star LC100 9 pin colour．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 129.99 Citizen Swiff 909 pin colour ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 154.99 Hewlett Packard Inkjet 310 colour ．．．．．．．．．．．．．．．．．．．．．．$£ 252.99$ Hewlett Packard Inkjet 560 colour ．．．．．．．．．．．．．．．．．．．．．．．． 469.99

## Mon Te is

Sharp TV／Monitor
Microvitec 1438 （Free speakers）．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 2994.99 Microvitec 1438 （Free speakers）．．．．．．．．．．．．．．．．．
FREE LEAD－FRET

## ACCESSORIES

3．5 ${ }^{n}$ Disk head Cleaner
Mouse Mat．． $\qquad$．．．．．．．．．．．．．
$\qquad$
 Amiga Disk Drives（Cumana／Amitek／Zappo）．．．£54．99 Manhattan Mouse Amiga／Atari ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．54．99
Universal Printer Stand
Universal Printer Stand
ADD $£ 2.00$ FOR DELIVERY

ALL PRICES INCLUDE VAT $\boldsymbol{\&}$ DELIVERY（Unless otherwise Stated）WITHIN 3 DAYS（UK MAINLAND ONLY）
ADD £8．00 FOR NEXT DAY DELIVERY CALL OR SEND CHEQUES／POSTAL ORDERS TO：
GREY－TRONICS LTD，UNIT 1015 WHITGIFT CENTRE，
CROYDON，SURREY CRO IUU
SALES HELPLINE： 0816869973 Mail order prices only FAX： 0816869974
All offers subject to availability．E\＆OE．Prices／Pack details may change without notice due to currency fluctuations．
Please allow 6 working days for cheques to clear

(1)ver the years Amiga Computing has always tried to keep Commodore at arm's length as far as editorial content is concerned-unlike some of the opposition.

Admittedly, during the first 18 months of my involvement with the magazine this wasn't parsoularly difficult, thanks to Commodore's total ineptitude in the PR department.

During this period we received a tiny handful of press releases, no product pictures or transparencies, and certainly no machines or otficial Commodore add-ons.

It's true that with the arrival of Kelly Sumner and the ubiquitous Mr Pleasance, the tide did appear to be turning. However since the big bang, Commodore seem happy to sit back as both users and third-party developers head for a watery grave.

As I write this particular piece Commodore have already been officially out of business for eight weeks. As you're probably well aware, during this period the rumours have been flying with Phillips, Samsung and Hewlett Packard all in the frame for a take-over.

However not a single word from

## Fond faremell

Before reading too far into this particular box take a quick glance at the bottom of the page. If you've never really taken much interest in what's affectionately known as "the flannel panel" it's unlikely you'll notice anything.
However there's one all important name missing among the motley crew that make up the Amiga Computing editorial team. Alas, after two years of inspired leadership, Stevie Kennedy's name no longer gets a mention.

During a period spanning almost four years, Stevie has been the key player in the development and subsequent success of the magazine, transforming what was a struggling publication into the one by which all others are judged.

Unfortunately for us his talents haven't gone unnoticed, and as a result he's been abducted and will now be editing one of our key PC titles. Obviously, it's always difficult to lose such an important member of any team, but with a little luck we hope to maintain the tradition of quality that's been the trademark of the "wee man" himself.

On behalf of myself and the rest of the team all that remains is to say bon voyage to a great editor, an inspired joumalist and a true friend. All the best mate, and good luck - not that you'll need any...

Paul Austin
Editor

## Back to

 Paul Austin asks why are the people who made the Amiga being treated so poorly Commodore. Obviously negotiations can be tricky, so it's not totally surprising the big $C$ are keeping their cards close to their corporate chests.But even so, what about the people who made the machine a success in the first place? Surely a bigger effort could be made to reassure the users and third-party developers who've carried the Amiga over the years.

After all, who manufactures the machine isn't really the issue, it's the uncertainty that's destroying confidence. Since Commodore's demise we've received just one faxed press release - and I can only assume the same is true for other magazines.

Obviously, for those sitting in the comfy chairs at Commodore's head office this probably isn't of any great concern - especially as Mr Pleasance has stated that there won't be any redundancies.

Great news for the old boy network, but what about the people at the sharp end, such as developers and retailers who quite rightly are terrified at the prospect of continuing Amiga development or investing in new stock.

Once these sort of people start to lose faith in a machine we're all in real trouble. Any machine is only as good as the people who support it, and if confidence goes, the machine goes with it - the ST being a prime example.

The really infuriating point is that the machine itself wasn't even developed by Commodore. In truth, the basic technology was bought and subsequently marketed
basics

under the Commodore name.
In reality it is fair to say the Amiga made Commodore and not the other way around. As a result, I think it's high time that the company who've made millions with the Amiga return some of the customer loyalty which has paid for so many company cars and executive lunches.

Strange as it may seem I'm still optimistic about the future, and with an injection of cash and a fresh management approach I'm sure the future for the machine will be secure.

The basic technology is still way ahead of the opposition and according to Mr Pleasance, prior to big bang the AAA chipset was already on test.

Combine the existing technology with the most enthusiastic user base on any platform and you have all the main ingredients for continued success.

In fact, it's a testament to Commodore's incompetence that they actually managed to go under. In the end I'm sure that the recent turmoil will be seen as a blessing.

After all, if Commodore can take on the machine and make millions, the potential for someone like Hewlett Packard or Samsung would appear almost unlimited

## The hic team

| EDITOR | Paul Austin | CIRCULATION DIRECTOR David Wren |  | CHAIRMAN Derek Meakin MANAGING DIRECTOR lan Bloomfield |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ART EDITORS | Tym Lecky | DISTRIBUTION | COMAG (0895) 444055 |  |  | 1 |
|  | Terry Thicle |  |  |  |  | PUBLICATIONS |
| NEWS EDITOR | Adam Phillips | SUBSCRIPTION | 051.3572961 | We regret Anigg Computing cannot offer technical help on a personal basis either by telephone or in writing. All reader enquries should be submitted to the address in this panel for possible publication. |  |  |
| PRODUCTION EDITOR | Judith Chapman |  |  |  |  |  |
| STAFF WRTERS | Jonathan Maddock <br> Simon Clays | Member of the Audit Bureau of Crrculations |  |  |  | For six years Amiga Computing has been the leading |
|  | Adam Phillips | $A B C$ 54,305 |  | Amiga Computing is an independent publication and |  | the Europress magazine group, Amiga Computing |
| ADVERTISING MANAGER | Simon Lees | Juy-Dec 1993 |  | Commodare Business Machines Ltd are not responsible for any of the artides in this assue of for any of the opinions |  | promises to inform, educate and entertain its readers each month with the most dedicated coverage of the |
| AD SALES | Jane Normington | Pubished by Europress Pablications Led. |  |  |  | Amiga available. |
| AD PRODUCTION | Barbara Newall | Europa House, Adington Park, |  | C1994 Europress Publications Ltd. No material may be |  | 12 isroe subscription (39.95 \%UKO, ©S4.95 (EEC) 874.95 (World) Ongaing quarterly direct debit: $\mathbf{\$ 8 . 4 9}$ (UK only) |
| MARKETING MANAGER | Lucy Oliver | Macclesfied |  | reproduced in whole or in part without written permis-sion. While every care is taken, the publishers cannot |  |  |
| PRODUCTION MANAGER | Sandra Childs | Fac 0625850652 |  | be held legally reponsible for any errors in articles, |  | Printed and bound by BPC magazines (Carlisle) Ltd A member of the British Printing Company Lid |
| SYSTEMS MANAGER | David Stewart |  |  | listings or adi | isements |  |

GREAT REASONS TO BUY FROM GORDON HARWOODS...
WHEN THERE ARE SO MANY DEAL ERS TO CHOOSE FROM WHY SHOULD YOUR CHOICE BE GORDON HARWOODECDMPUTERS?


In Derbyshire, Nottinghamshire and by Mail Order... NATIONWIDE! Always with speedy delivery!


Whose ir Order lethe with your Access, Wis, Mastercard, Connect, Delta, SWitch or Lanhurd Gredicharge Card putin
card minter 8 expiry date finest Eons, Corms, and other 'store' cards are tankard Creditcharye mad are happily accepted by us) s Issue number chert septenary (fe. Pith ste)
iv sty iranis or postal orders payable to cornow BuRw000 complies. (Personalhanhess
cheques tote 7 hays to cire from tiny of receipt whereupon your eider wii he recript whereupon your Envier wii hi moet importantly if possible, a Daytime Telephone Number along with your order
regilruments. Prese check you ape endertay Irvin eur latest advertisement before ordering
(phone ll you require confrnatlou).

Phase remember that for example
 advertised therein (which may spear up to date), cad have ten changed (ie then have
 lactone the magaine is on sale), We thereftert
reserve the right to alter a specific item op
 event of the cast price we pay changing. Please phone Fest I PRices to non UK residents med service perse net. Please contact us for confirmation of expert prices hetope ordering.
ty Parcel force (\% Patient only) of: sprit NEXT WOHONE DAY couriti

 annually ti ty of triter ir payment dearncel. Overseas rates at request.

CHOOSE FROM OUR GREAT AMIGA A1200 COMPUTER PACKS!!!
That's right... you have a better choice of Amiga 1200 Packs - with optional Hard Drive configurations - at Harwood. And... you get the best prices around plus an EXCLUSIVE JURASSIC STARTER PACK FREE WITH EVERY AMIGAIII


Worth almost £50


MICROVITEC AUTOSCAN 1438 $14^{\circ}$ Colour H1 -Resolution MutitSync 29 Dot Pied Colour H: Resolution Monitor (requires separate speakers). This one is
ideal for ALL. Amigos, ST's, PC SVGA, Acorn etc. Conforms to the stringent Swedish MPR2 Class emission standards. A FASTASTIC 14" DSERLAY
FABULOUS PRICE..

COMMODORE MONITORS IN SMALL QUANTITIES! PLEASE PHONE US FOR PRICING AND AVAILABILITY

AMIGA BOOKSHOP
Amiga Workbench 3 A-Z
1200 insider Guide Amiga Assembler Insider Guide Mastering Amiga Assembler
Mastering Auriga Dos V2 Vol. 1 Mastering Amiga Dos V2 Vol. 2 Mastering Amiga Dos V3 Mastering Amiga AMOS
Mastering Amiga AREXX
 Amiga Disks and Drives
Mastering Amiga Printer A1200 Next Steps
A1200 Beginners Pack. Including: 2 starter Books, Video \& Tutorial Disks

VALUE PACKED AMIGA PRINTERS
ALL our printers are supplied with cable, paper and labels FREE OF CHARGEI Dot Matrix models also come with a tailored dust cover FREE. Specific Amiga driver software is included with EVERY printer FREEI


CITIES PRINTER RANGE.
120D+ - 9Pin Mono
Swift 90-9Pin Mono
Swift $90-9$ Pin Colour Swift 90-9Pin Colour
Swift 200-24Pin Mono Swift 200-24Pin Colour Swift $240-24$ Pin Mono
Swift 240-2 4Pin Colour NEW ABC $24-24$ Pin Mono
NEW ABC $24-24$ Pin Colour
 BU10sx Mono - 360dpi
(Ask for Black or Cream Cask for Black or Cream
B200 Mono - 360 dpl 250 cps with auto sheet feed
BI 230 Mono - 360 dpi. B230 Mono - 360dpl, PICEOUs Colour - 360dp
240/170 cps, 8 Fonts, 12 MTH5 240/170 cps, 8 Fonts, 12 MTHS
ON STE MAINS. AVAILABLE

$\square$
 BU600-Cyan
$80600-\mathrm{Mg}$ anta
81600-Yelow
SC (20) $6(1)$ D FREE UK Mainland collection of major hardware SPIN: $\begin{aligned} & \text { (unless on-site warranty is applicable) } \\ & \text { \& FREE rapid courier return of serviced products } \\ & \text { \& ACCESS to our ex-directory Customer Helpline }\end{aligned}$
'LIFETIME' WARRANTY PLAN
You can choose to add an Extended Whreaty to AllY hardto 5 years cover and at the end of that period extend again on more the warranty is fully transferable, enhancing resale valsues of your equipment! Even available on hardware you may
have purchased elsewhere - Phone for details $\square$
$\square$




TIIIM printers


Star
Star LC100 Colour $£ 119.99$
Star LC24/100 Mono $£ 169.00$
Star LC24/30 Colour £209.99

- Built in 55 sheet feeder
- 24 Pin Colour

Starjet SJ48 Bubblejet
£210.00

## Star SJ144

 £369.99- Thermal max transfer colour printer
- 144 element head
- Glossy colour output
- 360 dpi resolution


## Citizen

Citizen Swift 240 Colour $£ 250.00$
Citizen ABC 24 pin Col. $£ 179.99$

## Hewlett Packard

HP Deskjet $520 \quad £ 259.99$
HP Deskjet 310
£239.99

## Lasers

Ricoh LP1200
$£ 599.00$
Panasonic KX-P4400 Laser
£499.99
Seikosha OP104

T/WF II Hard Drives


- Quantum SCSI Hard drive
- Ultra fast 11 ms access
- Up to 8 Mb RAM on board


## SPECIAL OFFER

## 170MB NO RAM £349

2Mb SIMM Upgrade $\quad \mathbf{5 4 . 9 9}$ 4Mb SIMM Upgrade $£ 109.99$

## GVP 286 Emulator

- 16 MHz 286 PC Emulator
- Norton rating 15
- Plugs into GVP II HD

GVP PC-286 Emulator $£ 89.00$

## -Legend Trakball

Ergonomically designed Trak Ball. 320Dpi resolution, 2 microswitched buttons. The Legend Trak Ball is very easy to use. Unlike normal Trak Balls the LEGEND is operated with the thumb freeing the fingers to click buttons.

ONLY £29.99

## CuVP Genlock

- Video processor provides real time software control of brightness, contrast, saturation, hue, sharpness, filtering, gain etc. - Audio processor with two audio inputs, software switchable or mixable, with software control of Volume, Bass and Treble effects. G-Lock Genlock $£ 284.00$ Rendale 8802 Genlock $£ 149.99$


## Th1200 Hard Drives

Plugs into PCMCIA slot Fully external, doesn't affect warranty
Add $£ 3$ for Centronics cable and $£ 7$ for next working day courier delivery.

250 Mb Overdrive $£ 349.99$ Phone for higher capacities.

## Tilli-giga Packs

Amiga $\mathbf{6 0 0}$ Summer Pack $£ 184.99$ A1200 Race \& Chase £279.99 Includes A1200 with 2Mb RAM. Trolls and Nigel Mansell
A1200 Computer Combat Pack £329.99 Includes A1200 with 2Mb RAM, Digita Wordworth, Digita Print Manager, Personal Paint 4, Total Carnage, Zool 2, Brian The Lion.

## Amiga CD32 £279.99

2Mb RAM. Dual Speed CD ROM.
Multi session, plays music CD's, 256000 colours on screen, includes 2 games Oscar and Diggers.
Amiga 4000030
$£ 999.00$
Includes A4000, 030 processor,
2 Mb Chip RAM, 80 Mb Hard drive.


- 200dpi resolution
- 2 Microswitched buttons
- Opto/Mechanical mechanism
- Switchable between Amiga/ST
- Direct Mouse Replacement


## £11.99

## (1) Floppy Drives

## - 880 K formatted capacity <br> - Double sided, Double density <br> - Through port <br> Zydec Drive $£ 59.00$ <br> A500/600 Internal Drives Phone

## AMAM Upgrades

## A500 512 K upgrade

 £16.99A500+ 1 Mb upgrade £24.99

## A600 1Mb no clock

 £34.99Plugs straight into A600 trap door compatible with A600, A600HD

## A1230 Accelerator

- 40 MHz 68030 accelerator
- Makes your Amiga 1200 run over 7 times quicker.
- Allows up to 32 Mb RAM
- Optional FPU


## A1230/4Mb/No FPU <br> £429.00 <br> A1230/4Mb/68882 FPU


£289.99
Microvitec 1438
The Microvitec 1438 is a multisync monitor compatible with A500/A600/A1200/A4000.
. 31 DP Colour SVGA £199.99
Colour SVGA Monitor £229.99
High quality Colour SVGA Monitor .28 dot pitch.

## A1200 VGA adaptor $£ 9.99$ <br> Falcon VGA Adaptor <br> Philips SCART to Amiga <br> 8833 MKII to Amiga <br> £9.99 <br> $£ 9.99$ <br> $£ 9.99$

## Falcon 030

- 16 MHz 32 bit 68030 Central Processor, 16 MHz Blitter, 32MHz 56001 Digital Signal Processor
- $1.44 \mathrm{Mb} 3.5^{*}$ Floppy, up to 14 Mb RAM. Displays 65536 colours from 262144 palette
- 8 Channel, 16 bit, high quality Stereo sound sampling
FALCON 1Mb No HD £499.00
FALCON 4Mb No HD $£ 699.00$
FALCON 4Mb 64Mb HD $£ 799.00$
FALCON 4Mb 127Mb HD £899.00
FALCON 4Mb 209Mb HD £999.00
Falcon Screen Blaster $£ 89.00$


## Repair Services

Our Service department can repair Amiga's in minimum time at competitive rates. We can arrange for courier pickup and return delivery of your machine to ensure it's safety. We even have a same day service which will ensure your machine is given priority and subject to fault, completed the same day. We offer a Quotation service for $£ 15$ for which we will examine your machine and report back with an exact price for repair. If you do not wish to go ahead with the repairs then just pay the $£ 15$. However if you do go ahead then the charge is included in the minimum charge. Please note: The minimum charge covers labour, parts are extra.

```
Quotation service
Min repair charge
Courier Pickup
Courier Return
Same day service
ع15.00
£35.25
£11.00
\(£ 7.00\)
£15.00
```


## De-archiving applications - Workbench 2.0 and aboue

on Proceed, at which point you will be told to insert a blank disk ready for formatting.

Once you have clicked on Proceed, the installer will indicate that it is formatting the disk in DFO. When this has finished, click on Proceed again to start the de-archiving procedure. When the application has been de-archived you will be told where the dearchived files are. Click once again on Proceed to finish.

If at any time you are unsure as to whether you want to continue installing, you can click on the Abort Install button.

Occasionally, utilities may need to add instructions to your User-Startup file located in the S directory so that they will function correctly. If you want to add the instructions, click on Proceed when prompted.


## Any

 commands that need to be added to your UserStartup can be done with the press of a buttonThe Files drawer contains all the utilities set up so that you can use them from the CoverDisk. A Games drawer is also provided so that you can play these immediately. If you want to install the games make sure you copy all the necessary files across as listed in the CoverDisk pages.
designed to be as simple to use as
possible. Follow these instructions and
you'll be up and running in no time!

Always boot from your CoverDisk when dearchiving applications. The installer programs can be located via the install icon with the appropriate name in the WB_2\&3_Only drawer.

The de-archiving procedure has been much improved and now combines the power of the official Commodore installer program with that of Workbench 2.0 and 3.0.

The installer program is designed to be powerful yet simple for the beginner and features a user-friendly interface allowing you to de-archive programs with a minimum amount of fuss. The installer programs for Workbench 2 and 3 users can be located via the icons named:

## Install[progran nane]

## eg:

> Installpin

To run, simply double click on the icon which will load up the installer program.

## Using the installer

Ignore the buttons that appear when the installer program boots up and simply click on the Proceed button. The program will then copy the necessary files to RAM.
Once this has finished it will inform you that it is about to format a disk in DFO. Click


Don't worry about the installer options.
Simply ellick on the Proceed button

The Workbench
2.0 and 3.0
installer icon

## De-archiuing applications Warkbench 1.7

Always boot from your CoverDisk when de-archiving applications. The installer programs can be located via the install icon with the appropriate name in the WB_1.3_Only drawer.

> Install!progras nase]_1.3
eg:
Installpfn_1.3
When you load up the 1.3 installer the program will first prepare itself ready to de-archive the program to a

blank disk(s). You will then be asked to insert a disk to be formatted into DF0 and either press $y$ to continue or $n$ to abort.
Provided you answer y, the disk you insert will be formatted and the application de-archived.

## Installing utilities

You should first run the MakeUtilitiesDisk_1.3 to format a blank disk called ACUtilities which will be used to store any utilities you eventually install.

This disk can be used with future CoverDisk utilities until it becomes full. The MakeUtilitiesDisk1.3 program will be a permanent feature of the CoverDisk.

To install any utilities, boot your machine with your CoverDisk inserted in DFO. Utilities can be installed by clicking on their install icon found in the appropriate drawer in the WB_1.3_Only drawer. You cannot specity their destination and any additions to the StartupSequence must be done manually.
When installed the utilities are copied to a drawer called ACUtils on the ACUtilities disk.


#### Abstract

We have now managed to fix the problem with AmigaDOS displaying a "disk is write protected" requester when a write-enabled disk is inserted. Just make sure you insert a blank disk when the installer programs tell you and not before or after.


## Installing utilities

The procedure for installing utilities is much the same as installing applications, except that you can boot from your hard drive or Workbench disk. As utilities don't need to be de-archived, you are asked to specify a directory on your hard drive or Workbench disk where you would like to install them.

If you don't want to install to the default directory you can change it by clicking on Change Destination. The Show Drives button will allow you to select a new device and directory. You can create a new drawer for your utility to go in by clicking on the Make New Drawer button and typing in the name.

You can also make a utilities disk by running the MakeUtilitiesDisk1.3 program located in the WB_1.3_only drawer and installing your utilities to here. At times you may be asked if you want to install a utility's documentation. A tick box indicates that the documentation is selected for inclusion, but you can click on the box to ignore it or simply click on the Skip This Part button.

The utility installer programs can be found in the appropriate program drawer in the WB_2\&3_Only drawer.


## Loating Scroller ?

You are not required to de-archive Scroller 2 because we have supplied it to you in its original form. To load Scroller 2 simply insert the disk into DFO and then re-boot your Amiga.

The Scroller 2 disk is not an AmigaDOS therefore you will not be able to copy it or install it onto a hard drive.

The addition of Fast RAM will not make any difference to the program as Scroller 2 uses only Chip RAM. Obviously, the more Chip RAM you have the more fonts will be loaded when Scroller 2 loads.

You do not need to keep the Scroller 2 disk in DFO at all times as the program is loaded into memory.

$*$elcome to Scroller 2 from The Soft Alternative. You now have the ability to create stunningly attractive text displays which you can genlock onto your favourite video, whether it be a wedding, birthday party or home movie (interesting).

Not only does Scroller 2 allow you to add text to videos but also to scroll it in all directions, as well as add a wide range of special effects for that professional touch.

The following tutorial will teach you how to use the interface, create a text display and scroll it.

Once Scroller 2 has loaded you will be presented with the main options window. It is from here that you create scrolling text displays which you can genlock onto your videos.

## ABILITY

Every button also has a keyboard shortcut which is displayed on the button. If you would like to see what Scroller 2 is capable off press the F1 key and Scroller 2 will run through the demo script which is always in memory when the program is first loaded.

When you have finished watching the demo press the Esc key to get back to the main menu. If you press F2 you will see the Scroller 2 logo scroll on from the left and split into two sections. This is because the demo script is not designed for use with the horizontal scroll option.

In this first tutorial we will produce a set of



 F1GP.Editor

T Use this superb F1 Grand Prix editor to Use this superb FI Grand Prix editor to
enhance the
original game






# That professional 

 feeling Add a truly professional touch to your uiden praductions with the complete
## Scroller 2 from The Soft Alternative

credits for a video production and then save them onto a Scroller 2 data disk. You will need to have a blank disk handy.
To select any of the options in Scroller 2, press the function key that corresponds to it. For now we shall take the third option, F3 Edit Text.
When starting a new title F3 is usually the first option you will use. If you haven't done so already, press the F3 key now and

## Scroller 2 allows you to create smooth scrolling text displays which you can genlock onto videos

When entering text you can call up the help page simply by pressing Help. This page will show you all key commands and their results

Scroller 2 will display its Edit Text screen.
This should be a black screen with $00 \%$ displayed in the top left corner, with a thin line beneath it and the Scroller 2 logo in the middle of the screen.

Press the left Alt key if there is no status bar visible. You should also see a flashing cursor indicating text input.

The Scroller 2 logo you can see is part of the demo script which is always loaded on start up. So, your first step whenever you begin a new project is to clear this script from memory.

## FUNCTIONS

If you can't remember which key calls a particular function, remember that the Edi Text screen has in-built help available. The Help screen will appear if you press the Help key.

Do this now and you will see, amongst al the other information listed, that you mus press Shift and Del together to clear all the text. However, before you can invoke the

## Disks

clear command you must return to the Edit Text screen. So, as instructed at the bottom of the Help screen, press the Esc key.

Incidentally, the Esc key is always used to exit from the current level of the program to the previous one. If you pressed Esc again you would move back one more level from the Edit Text screen to the Main Menu.

Clear the demo script by holding down Shift and Del together. Scroller 2 will double check that you really meant to do this by asking Delete all text $\mathrm{Y} / \mathrm{N}$. In this case hit Y and you will be returned to an empty Edit Text screen ready to start receiving your text.

You will find that the Edit Text screen works similarly to a word processor - with a few added bells and whistles. Before we start to type in our titles we need to set up a couple of options.

## JUSTIFY

For this project we would like our titles to be centred. Scroller 2's default is to make all the text left justified - meaning that each line of text starts flush with the left margin.
To make the text centre justified we must press the F9 key which you can find on the Help screen. Once you have pressed F9 you should see that the flashing cursor jumps to the centre of the screen, indicating the position where text will appear when we start typing.

We also want our text to have a drop shadow so that it will stand out from the background, so press the F5 key to turn the

shadow on (Scroller 2's default is shadow off).

Finally, select a big, bold font by holding down the left Shift key while pressing F10. There are 19 other fonts that you can select using the Shift and function keys. They come in a variety of sizes and styles and you can also load extra fonts from additional fonts disks. We can now enter text.

Type the word Camera and you will see it appear in the centre of the screen in large white text with a red drop shadow. If you make any mistakes you can delete them using the Backspace and Del keys in combination with the cursor keys which move the flashing cursor around the text.
To enter a new line press the Return key and the cursor will move onto the next line.

Entering text couldn't be simpler using Scroller 2, as it emulates all the functions of a professional word processor

You are now ready to type a name, but first press the F2 key. Now type Joe Bloggs and you will see that it prints in yellow rather than white: By pressing F2 we instructed Scroller 2 to use Colour 2 (yellow) for subsequent text. Before we enter the next credit press Return twice to make some space beneath the first credit, and then F1 once to select Colour 1 (white). Now type in Sound to begin the next credit, followed by one press of the Return key. Next, press F2 to select colour 2 and type Dave Smith. Carry on in this fashion until you have a list that reads:

| Canera <br> Joe Bloggs |
| :---: |
| Sound <br> Dave Snith |
| Lights <br> Sarah Jones |
| Producer <br> Migel 6reen |

(This four line space is intentional)

## Director <br> Stella Adans

## Author: Imagine Software <br> Workbench 2 and above

Midnight is an excellent screen blanker program that allows you to choose from ten different blankers.

On loading the program you will be presented with the tasteful Midnight interface. Everything you will need to run the screen blankers is present on this interface.

In order to test each blanker, select one from the list gadget and then click on the Test button just underneath. You can also edit the way in which each blanker works by selecting one and then clicking on the Editor button. Each editor screen is particular to the selected blanker.

If you want to have Midnight run every time you boot your Amiga you will need to copy the BPrefs program into your WBStartup drawer, the Midnight program into your Prefs drawer and the Blankers and manuals anywhere you like.

Of course, the program will not be able to locate the blankers until you specify the path using the requester below the Imagine Software logo.

This is a demo version of Midnight but if you register to the full version you will be able to define your own blanker modules using the random option, as well as select others not included in this version. It's up to you.


Yes, I know I'm using MagioWB, Midnight is certainly the best collection of soreen blankers available for the Amiga

from the beginning as soon as it reaches the end, which is why this mode is frequently used for informational displays. Continuous mode is the default setting.

However, for this example we need to use Single mode, so press F1. You should see the arrow move from Continuous to Single. Leave the other options as they are and press Esc to return to the main menu.

At last, we're ready to scroll. Press F1 to select Vertical Scroll. The text you have just typed in should start scrolling very rapidly up the screen. To control the scrolling speed you can use the numeric keys or those on the numeric keypad. The higher numbers correspond to higher speeds, all the way down to zero which is stop.

Speed five gives a nice, smooth scroll at a medium speed so select it by pressing the number 5 key. If all the titles have already scrolled past, press Esc to return to the Main Menu and then F1 to start the vertical SIMenu
(filicon
Imenus

Scroller 2 comes complete with pre-defined colours but you can edit them if you wish to create your own
scrolling again. Try pressing 0 when the Director's credit is in the middle of the screen. Wait a few seconds and press 5 again. The Director's credit will pause in the middle of the screen for a moment and then continue on its way.

The extra space we put around the Director's credit allowed us to pause it in the middle of the screen on its own. Scroller 2's scrolling speed can be controlled interactively like this with great ease.

We can now save this tutorial to disk by returning to the Main Menu and pressing F8 to select the Disk Menu.

## DISK DRIVES

Across the top of the Disk Menu you will see images of four disk drives labelled DF0, DF1, DF2 and DF3. The picture of drive DFO has a disk in it and its light is on, indicating it is the currently selected drive.
We want to save our titles but first we must format a Data Disk to prepare it for use with Scroller 2. Press F4, at which point Scroller 2 will ask you to insert the disk to be formatted into drive DFO. Take the program disk out, insert your blank disk and then press F1, at which point Scroller will start to format the disk.

Your Scroller 2 Data Disk is now ready for use. Press Esc to return to the Disk Menu and then select F2 to save your text. Scroller 2's file requester will appear, allow-

## Author: Greg Cunningham <br> Workbench 2 and above

SMenu is an excellent utility that will allow you access to the Workbench windows simply by pressing the right mouse button anywhere on the Workbench screen.

If you wish to use the Silicon menus option where you can specify how SMenu will run, you will need to alter the SMenu icon's default tool. You can do this by simply clicking on the icon once and then selecting Information from the Icons menu.

Change the line:

## VINDOV=OFF

to:

## WHSOU=OK

Save the changes and when you next click on the icon you will see the ButtonFly menu where you can toggle certain attributes about SMenu.

What follows is a brief explanation of each button, starting from left to right, top to bottom.

Iris Menus - the menus appear on screen until you press the right mouse button a second time


Centred - centres menus vertically
Sub arrows - arrows indicate sub-menus
Qualifier - pops the menus up only when the qualifier has been pressed

Kill pgm - exit Silicon Menus
Use opts - run Silicon Menus with the selected options

If you aren't too keen on running the Button Fly every time you can set the options in the Tool Types. Here are descriptions of the Tool Type commands:


Find out what your
Amiga is up to at all times with this excellent monitor program

## Dashboard

## Author: Marat Fayzullin Workbench 2 and above

DashBoard is an excellent little program that displays essential system information about your Amiga.

When run it will display the current time (if you have a clock), the amount of Chip, Fast and total memory and CPU activity. All of these are displayed using highly informative graphs and speedometers.

Also supplied is Dashboard Jr which is a cut-down version of the full program. Jr displays just the amount of Chip, Fast and total memory.

For a more detailed description of the display check out the annotated diagram.


At last, all you rookie experts can keep with the automatic gears but race against far superior opponents than the defaults

## F1 Criand Prik Editor



Not only can you set the skill level
of the other drivers but also edit
thelr car and helmet colours

## Author: Steve Smith

If anyone had to nominate the best computer game on the Amiga there is no doubt that F1 Grand Prix from Geoff Crammond would receive serious consideration.

However, most players have shyed away from the higher performance levels of F1GP due to the fact that it's damn hard driving with gears. Host are content to race on the rookie levels with maybe the destructable function switched off.

The only drawback of racing on rookie level is that you eventually improve so much that F1GP fails to be a challenge anymore.

This is where the F1 Grand Prix Editor steps in. Mimicking the look of the game, F1GP-Ed allows you to alter all the attributes associated with the game and save them as either a seperate file or into the actual FTGP program. Everytime you load the game the defaults will be the same as you created in the editor.

You can improve the skill of opponent teams and drivers, turn players on or off, change heimet designs and best of all edit the colours of the cars using a simple but effective colour picker.

Using the F1GP-Editor is very simple - most of the buttons and windows are self-explanatory. Steve Smith has kindly included three example files which you can load into the editor and save to the FIGP executable.

## EHfipectrum

## Author: Peter McGavin

The Amiga is a very powerful machine, so powerful in fact that it can quite easily emulate other computers, including the ZX Spectrum - that classic 8 -bit computer that really set the computer industry moving.

There are two versions of ZXSpectrum on the CoverDisk - a 68000 version for the A500, A500+ and A600 and a 68020 version for A1200s and above.
The good news is that if you own an accelerator ZXSpectrum will still function, taking advantage of any additional hardware.
As it stands, the 68000 version will be very slow unless you own an accelerator. Even the 020 version can't quite emulate the Spectrum speed, but with an 030 you'll be looking for the rubber keyboard and reminiscing about the good old days.
So that you can step back into those funky 8 -bit days we have also supplied you with a Spectrum game called Batman - an isometric 3D game in which Batman must collect parts of the Batmobile in order to save Robin.
When you first load ZXSpectrum you will be greeted with the familiar reset screen. By pressing
down the right mouse button you can select a variety of options from the main menus.
Select Load and you will be able to load in the Batman snapshot file. You can even save any programs you have written with the Save snapshot facility.
There is a file missing from the ZXSpectrum pack and this is the help page. Unfortunately, there was just not enough room to get this on the disk.
When you press the Help key a picture is displayed showing the Spectrum keyboard. If you want this file write in and tell us and it will be included on a later CoverDisk.
A standard Amiga joystick can be used by plugging one into port 2 and selecting Kempston as the control method in any games you play.
The Settings menu allows you to load any Spectrum game through a sampler and store it as a snapshot file. You can load in games by connecting your data recorder to a sampler and playing the data through it and into the program.
ProSound and Rombo samplers are directly supported but almost all samplers that are capable of a least 20 kHz and plug into the parallel port will work.


There are plenty of other games available for the Spectrum emula. tor. If you want to see more write in and tell us

This is the best Spectrum emulator you're likely to find. Just look at those glorious colours



## Faulty [ouerDisk

If you subscribe to Amiga Computing and your disk does not work, please return it to:

Amiga CoverDisk, Europress Direct, FREEPOST, Ellesmere Port L65 3ED

If you bought your copy from a newsgent and find that your CoverDisk is faulty, please return it to:

PC Wise, Dowlais Top Business Park, Dowlais, Merthyr CF48 2YY

## miu

## Author: Adam Dawes

This is a intended to be a fun program which, when executed, displays the familiar MTV logo in the top-left corner of your Workbench. Over time the logo spins, flips and rotates, just like the real thing.

The MTV program does not have an icon so you will need to run it from the CLI or Shell. Use the CD command to change directory to the MTV drawer and then enter MTV.

The program does not interfere with other programs and can easily be switched off by holding down both mouse buttons for a few seconds.

# At SoftWood we have 0 

 we Zon't just rest on them! 1ə11When your softuare repeatedly wins the bigbest accolades in revieus worldwide, what do you do? Work even barder to stay abead of course! New Final Writer Release 2 is the latest result of our intensive development - it's even easier to use, and even more pouerful. It's the best there is, and it's designed for those who expect the most from their Amigas. But, if you don't have a bard drive system, don't despair, we can still belp. At SoftWood we offer you a choice of two Word Processor/Page Publisbing packages.
But why TWO?
Well, this means that whatever specification Amiga you bave, SofiWood have the perfect solution for your requirements - and aluays the most powerful possible for your sstem. Final Copy II is at the peak of wbat can be achieved when nunning with twin floppies, it's not possible to offer more without losing performance. Final Writer is the first and
 only bard drive compulsory Amiga word processor, the only package that doesn't make compromises to be foppy compatible!

## The Sof Wood Advantage...

Final Copy II (upgradable to Final Writer as your needs grow) and Final Writer are the only word processors that 5 give you PerfectPrint ${ }^{\text {TM }}$ - a unique printing advantage giving silky smootb Industry Standard Adobe ${ }^{T \mathrm{TM}}$ Type 1 or Nimbus Q scalable outline fonts direct to any printer (even dot matrix and ink jet), in botb landscape and portrait. Otbers ue a reancitie and umemasay jimble didjorout fons utib ampler aniere progens for aupamating 10



 actimaty on the pepge

## Final Writer, extending immovation..

Now, as others are just starting to add similar features, saying they're 'revolutionary', Final Writer extends the innovation furtber witb FastDraw Plus ${ }^{\text {™ }}$ - adding even faster and more functional options, including a new rotate command. Final Writer Release 2 is again leading the way witb the introduction of ToucbTools ${ }^{\text {Th }}$ and PowerUser Bar ${ }^{\text {TN }}$ technologies. These features give the user a definable area at the top of each document window ubere up to eight "one-toucb" button strips can be configured. Each strip contains easily customisable sets of functions giving instant access to all the major commandsfeatures - with a simple click of the mouse? There is even a set of buttons allowing "onetoucb" selections of font style and size plus variations including Plain, Bold, Italic and Underine! It's no wonder weve receited top revieus, ratings and auards from all the leading magazines.



## Final Copy II Release 2

Our word processors go beyond simply producing normal letters and documents, at which they naturally excel, and progress into a world where "how the whole document looks" is just as important as 'what it says'. Admittedly, this can be achieved with Desk Top Publishers - but they're not so easily used as word processors, especially when a good looking letter needs creating quickly they're far too cumbersome. Final Copy II offers the perfect balance between the two requirements... Ease and speed of use, with total control over the perfect printed presentation. Complete control over how documents look, now you have it at your finger tips on your Amigal Features include:
 FastDraw ${ }^{\text {TM }}$ (on-screen drawing tools for use with the generation of borders, boxes and lines or arrows at any angle), Multiple Newspaper Style snaking columns, PerfectPrint ${ }^{\text {D3 }}$ (the unique ability to use Post Script ${ }^{5 \mathrm{TH}}$ outline fonts on absolutely any printer in either porrait or landscape) and Text Auto Flows around graphic objects and imported piçures (placed anywhere, scaled or
 cropped) with the highest print quality. Text can also be printed over graphics! It's features like these that explain why there are some professional magazines, with $200+$ pages, that are produced entirely with Final Copy I! Publishers, and many others, have quickly discovered that.
No other Amiga Word Processor in the same category, and at such a competitive price, has all the capabilities Final Copy II users have always taken for granted! Isn't it time for you to take a look too!

Sofflwood Direct Price: £49.95

Amiga Shoppet... "Final Writer is the closest thing to Microsnff Wond to appear on the Amiga" Amiga Computing... Final Copy II soted "Best DIP Pachage' Amiga Shopper... 'If ever there was a good reason to buy a bard drive for your Amiga, Final Wriker is that reason - Amiga Word Processing bas come of age utto Final Writer' Amiga Format... Final Cofy II is "The Best Word Piblicher" Amiga Pro... "In comparison (to Worduonth 3), Final Writer 2 is slick, solid and rmiable and. is d damn site more wable" Amiga User International... Final Wriler is "a pouerfua' program that produces excellent results" Amiga Computing... Final Wrier is "easily the most configurable Amiga WP eer' CU Amiga... Final Writer is the "most powerfiul WP ever to grace the Amiga" Amiga Format... Td go for Final Writer aeer Wonduontb (3) - Final Writer is a joy to use"

## SoftWood Direct...the best soffuare at the best price...Order

# ur Laurels 

# SoftWood <br>  New Telephone: 0773521606 

## Introducing - SoftWegdrect

We recently surveyed a sample group from of our tens of thousands of users asking for their opinions or comments about our software. The results were ound of weers asking for their users saying that they regretted not buying Final Copy Ior Frwhelmingly positive with many ar Anal Whter much sooner combined with the fact that thy hadn't, the most common answers were price and availabil or had received free. They coul often had another word processor they'd owned for some time fust how much more easily and $m$ see the need to upgrade! Once they had however, and found output could be from their own printer productively they could work, and how much better the When you can buy als priced competitively. Even now Amiga for under 5300 , it's obvious that software has got to 1 be counter faltering sales Some though, some Amiga software vendors are raising their prices to Our increasing sales mean we can nowe you, again and again, each time you call them for support! from Soffwod Direct ensures you got the Ber our prices to the bes weve ever charged! Buyping But.. dont just take our worldwide, have bestowed higher it magazine reviews of Amiga word processors in the UK , an than any others. We prefer not to say weere more awards on Final Copy II and Final Winter have consistently been acclaimed for their number one - the expents do it for us! Our packages launch. Softwood software works first time, eve-proof' reliability night from the day of We listen to feedher
with our programs, we now offer a no-risk chance to it We're so confident you'll be delighted is that if you find we don't live up to any of our claims. you'll qou ve decided you're completely happy, by s.. Well give you your money back 50 additional for free lifetime technical support. And... Final wreturning your registration card
 Call Today... to find out what you've been missing'
 Italic, Underline etc.) and Layout Options' (left, right, centre or justified, bullets, line spacing, indents etc.). The options you have through single button selections are nothing less than remarkable! Indeed, one magazine heralded these as 'the closest thing to Microsoft Word to appear on the Amiga" Also uniquely, Final Writer can import, scale, crop,
view on screen and output structured PostScript EPS clip-att images (we supply a hundred free with the package) to any printer (>2mb system RAM required). And... if you own a PostScript printer Final Writer is the only word processor with a set of output options including scaling, crop marks, thumbnails, and halftoning. Combine features like ARexx/Macros and Text Clips ${ }^{\text {™ }}$, with others new to Final Writer, including floating palettes and UNDO/ REDO (on text, formatting and graphics actions) - and you have... Final Writer Release 2. Available now from SoftWood Direct (and all other good Amiga software stockists) - offering you the.
Perfect Word Processing/Page Publishing Solution.


## BY PHONE 0773521606 <br> \& $\frac{1}{2}$ Easy ways to Order <br> BY FAX 0773831040



## Fet sillig smanth uith the ultimate Fcrollerr ungrade

The Strollera Ioverlisk is just ane part of the whole pathoge．Make sure you complete your Strollera pathage， including manual，at this special offer price of just tal． 51 Cincluding UiII and Pit？．


## Scroller2 is a powerful，easy－to－use titling system for the whole Amiga range．For the smoothest continuous vertical or horizontal scrolling this is the software to use

## Scroller2＇s other features include

－Multiple fonts on screen simultaneously－ including colour fonts
－Define and use up to eight colours from 4096
－Positionable drop shadow for each font in memory
－A variety of transitions including Teletype， Fade in and out
－ 16 ultra smooth scrolling speeds
Complete this coupon and return it to；
Alternative Image， 6 Lothair Road，Leicester LE2 7QB
You can order by card on：
Tel： 0533 440－041
Fax： 0533 440－650

## What you＇ll receive

The Backup Disk－Scroller2 is copy－protected so this disk is provided for emergencies．
The Utilities Disk－contains FileUtil and Grph2Fnt which allow you to copy text，pictures and fonts between AmigaDOS disks and Scroller2．This means you can import text from your word processor，logos from DPaint and your favourite PD fonts into Scroller2．
The Fonts Disk－contains another 13 fonts for use directly with Scroller2．These fonts include anti－aliased，outline and embossed character sets．
The Manual－tutorials，reference，trouble shooting and more．

## Grrallera arder farm

Please send me Scroller2（the full product）at $£ 21.50$
Deliver to．．．
Name（Mr／Mrs／Miss／Ms） Address
Postcode $\qquad$ Daytime Telephone

## I wish to pay by．．．

$\square$ Cheque／Postal Order payable to Alternative Image， 6 Lothair Road，Leicester LE2 7QB Credit Card（Visa／Mastercard）

Card no． $\square$
$\square$
$\square$ Tck this box＂you do not wish to recelive promational material from other companiles

## © PHOIO/CRAPHICS PACK FOR A4000





 CD System inddeses: Toshblba C ROM titre, SCSII II centrol $\mathrm{md} \mathrm{s} / \mathrm{w}$. ts above withont SCS:

WHEN PURCHASED AT THE S 299.99

## JNSTANT PHOTO SYSIEM CANON RC260 ION CAMERA E299.99     MTIASAC KIT FOR P <br> deutar mountes wacome <br> ANY YID WITH RC <br> CAMERA $£ 200 \mathrm{FF}$ <br> RENDALE 8802 SVHS (fRED) OFF

OU AMISA TRADE-IN*




A500s FROM £139
A1500s FROM £199

 259020/4003. .129/159 OTHER ACCGSSORIES - PLEASE ASK.



## CD32 SOFTWARE

Ouec 75 thes specially viltan fue the cir should bo in stock (phone for list), inc. syndicite, Zood 2 , Jursisi fork, Coos trigne many of which induse a fill © 0 muic trod alorysito the game. Atoot half of xxistiteg CDN ities are compation. (D) will also pion sormol musi Css and $\mathrm{C}+6$ dss

CD32 Stuplard werronty is 12 matha retien to bese.


Now with CHAOS ENGINE and £239.99 AVAILABLE NOWI CD ${ }^{32}$ FMV AND SXI
 Masobofic SXI $\qquad$ E189.90 liabloud for $5 \times 1$ $\qquad$ E 49.50

NO OTHER DEALER CAN BEAT oUR cREDENTIALS


 Open 9.6 pa liondor lo Satardoy and 10.00 em to 4.30 pm Sundors FiUS

 Centre branch
Sene dor devpath for most ocrlers receined by 5.30 pri, express am and
Sotardoy senius avaibble
 top neme curier strive
Pro dengoldit lefiing on Anigo sytems
 with on isile méntenarace)
Holline sppport and in-house enginuers
Upyode ard trode in offiar to loep yoo up to dato
Excoplionol afer scles surice
BFPO and oxport wolcome

## A4000/30\& 40

A4000/30: AGA Chip Set + 68030 processor, $6888225 / 50 \mathrm{MHz}$ coprocessior option, 256,000 coloens from 16.6 M , sean doubling for flicker Free display, Mouse, Amiga $3.5^{\prime \prime} / 1.76 \mathrm{MB} 3.5^{\circ}$ divive, Hard Drive as below, Amiga DOS 3.0 system and utilities.
A4000/40IC: Desktop as above, but foaturing the blistering 68040 processor, with full floating point fadilities.
A4000/40TW: Tower wift fill $040 / \mathrm{FPW} / \mathrm{MMU}$ processor with SCSHII $\& 1 \mathrm{DE} 1 / \mathrm{Foces}$.



## EXAMPLES OF OUR RANGE <br> CALIBRA PC <br> VESA Locol Bus

4 Mb zMM (expanded 10 128 Mb ) $3.5^{\circ} 1.44 \mathrm{H}$ Flospy Dak Drive Ub Oirus Logir Graphis Acsterciter (ard NEEA) 128k Cacte
$14^{\circ}$ Colsur SVGA 0.28DP Low Iadiation Monitor MS.DOS 6.2, Windous 3.1, Waks

1 Year On-Site Mointenance Hord Disk Size 170 Mb 260 Mb 340 Mb Processor 504365K 25 UHt $£ 999$ £1059 £1099 834850× 33 MHz E1159 £1199 £1249 $806860 \times 2$ 50Nutz E1 199 E1259 E1299 $304860 \times 2665 \mathrm{NHz} \mathrm{£1399}$ £1459 £1499 LARGR DRIVE SIZES AVAILABLE


## A1200

del CMDFPOC NIGEL MANSELAGA miROMSAGAAD
COMPLATION PACA 3 Top games
DESKTop DYWNA
PACK PLUS
Hot ust time
ADD $£ 44$
KIMD WORDS 3
ADD $£ 9.99$
WORKS PLATIWU
ADD £19.9
NEW
comeat/
mhovations Pic
ADD $£ 44$

| 3 Single 0 | Sicio |
| :---: | :---: |
| M88 ${ }^{\text {AD }}$ | 3 Top games |
|  | DESKTOP |
| +120188 HD 479 |  |
| $+200 \mathrm{MB} \mathrm{HD} 529$ |  |
| ${ }^{+340148 ~ H D ~}{ }^{+}$ | ADD £44 |
| (e) finted ADD $£ 200$ |  |
|  | 2 |
|  | LDD $£ 9.99$ |
|  |  |
| STARTR PACKiAD द15 <br> packstiow |  |
|  |  |
| (sie vaiue pact min. |  |
| SPECIAL |  |
|  |  |
| - OWIY £170 | D £4 |

STARTER PACK


AIGA £19 ALONE £29

 WITH

SERIOUS USERS PACK
 THH AMIGA $£ 39$ ALONE $£ 49$
ITM

## THE ULTIMATE SINGLE PLATFORM

- RUNS ALL LATEST PC. MAC \& AMIGA SOFTWARE - ON ONE MACHINE


## ITIS A MAC. A4000, 68030 Amiga Processor 340MB Hard Disc and 10 MB RAM 2MB, 24-bit Video Card <br> - Emplant Mac \& PC Processor Card <br> - $\mathbf{1 4}$ " Multi Mode Monitor \& Stereo Speakers <br> - Work Bench 3, DOS 6.2, Windows 3.1,

 Mac System 7.1
## MORE IMPORTANT - IT'S AN AMIGA! <br> SPEED <br> Faster than a Mac IICl <br> Faster than PC 486 SX 25 <br> DISPLAY <br> Up to $1600 \times 1200$ in all modes <br> SOUND - Built in Sound Blaster Pro Support

## ALL FOR AN INCREDIBLE £2499

# The 5 ec a <br>  <br>  

bly the most exciting for the future is LightWave's new
one of the best and most cost effective graphics packages available on any machine. Now it's available to videographers in Britain and Europe, and it's even better than before.
A host of improvements and tweaks have been incorporated at the request of users such as RoboCop's Lee Wilson and his team, the results of which give LightWave an impressive edge on the competition. Just about every menu and screen has seen some sort of change, small or large, but proba-
modular design

Referred to by NewTek as "Plug-In Technology", the modular approach means that third party developers can integrate their own products with version 3.2 Everything from display cards to new object formats can be catered for and, with the size of the US LightWave third party industry which has spawned an entire range of add-ons, it won't be long before users are plugging in all sorts of new features. s one unfortunate Amiga magazine prematurely put it last year, "It's herel" Yes, LightWave 3D, the software we've all been baying for has finally been unleashed by its NewTek masters in a PAL-friendly form without the Video Toaster or the need for expensive and quality-reducing standards conversion.

For so long the exclusive property of those lucky North Americans, LightWave has quickly built itself a reputation in the US and Canadian visual media as


## |f fistfiul of features

LightWave 3.2 incorporates several important changes over 3.1. Some of them, such as the use of sliders to control numerical values like luminosity levels, are cosmetic and designed to improve the program's user friendliness, but others are far more solid.
Values assigned to surfaces and textures can now be between -399 and +400 per cent; camera field of view is now represented graphically in the layout screen; motion graphs have been improved; Bones have been given a great deal more flexibility, the list goes on. As most, if not all, changes have been made through prompting from professional users, they add increased flexibility and performance to many aspects of LightWave 3.1.

Modelling from scratch has never been easy with any 3D package, but LightWave 3.2 makes it easier to create smooth, realistic objects from crude, faceted blocks through the metaform option. This is a new method of subdividing existing polygons and is much more effective than the old smooth option. In

LightWave's new Metaform subdivision option makes it easy to create smooth, organic objects from bulky, faceted beginnings and is one of the best of the now features
the screenshots shown here an effective car model is quickly constructed from a very rough frame using metaformed polygons.

The Bones feature is another which was never as good as it could have been, and a couple of important changes have addressed its shortfalls. When adding a Bone to an existing hierarchy it is no longer necessary to
scale, position and group the new bone tedious task at the best of times. LightWav now takes care of this automatically, makin it a lot easier to construct complex skeletons

Once built, these skeletons are now mad more flexible through the introduction of limited range option. Using this it is possib to set exactly which areas of an object ce


From cars to Robocop to planets and skeletons - the package is now even more versatile

$>$
image. Sizes range from 16 to 16,000 pixels, so there should be a resolution in there to suit everyone, and PAL video settings ( 736 by 566 on maximum overscan) have jumped off the wish list and onto the screen.

To improve preview rendering times, there's a new limited region feature so that only a small part of a scene need be rendered. This is very useful if one surface out of twenty or so has been altered and the user doesn't want to render every other object in the scene just to see how the changes affect the outcome.

Pixel aspect ratios are fully configurable so that images rendered for print - rather than video - can use completely square pixels, and to speed up some animations the motion blur and depth of field effects will now work
only with low anti-aliasing rather than 3.1 's insistence on the slower medium or high settings.

Effects haven't missed out on the fun either. Non-linear fog, one of the best tools for adding a touch of realism to a scene, is now much more configurable. Instead of a simple minimum and maximum fog distance, the user can now change fog density using an envelope so that it can be made to thin out during an animation, and the maximum amount of fog blending - previously set at 100 per cent so that objects eventually disappeared altogether at distance - can be set to any desired amount.

Proper use of the new fog features make it possible to create clouds of fog through which an object can fly during animations. With a little practice, the new controls turn fog
into more of an animated design object t just the background aid it once was, an further enhance its use there's a graph representation of the fog settings shov how the effect works across the scene.

On the layout screen's options pane handy new AutoKey feature tells Lighty that whenever an object is moved or rot at one of its previously created key frar


Lee and his team took real life scenes and used LightWave models over
them. The Jeep, laserbolt and explosion are all from LightWave
Visual effects supervisor Lee Wilson is the man behind the light fantastic on SkyVision's RoboCop series, and it was his long term interest in the Amiga and Video Toaster which resulted in the show's use of LightWave imagery for much of the 3D scenes we will see when the series opens in the UK.

It was an introduction made by Lee and destined to become very productive. Initial use of LightWave on the two-hour pilot movie was restricted to a shot of RoboCop's helicopter flying over the city, but by the later episodes Amiga-generated graphics had become a major part of the production.

By the time SkyVision shot the "Heartbreakers" episode half way through the series, LightWave was being used to put together over 20 shots per show, including a continuous $31 / 2$ minute scene from inside RoboCop's cyberspace "neuro-net". "We get a lot of bang for the buck out of this department," explained Lee.

It is a department many Amiga enthusiasts would kill for, equipped with 14 Toasters, one of which runs the seventh Raptor accelerator to come off the production line. This new card utilises two R4400 Risc chips as found inside Silicon Graphics machines to give the Amiga a rendering speed to match the best available anywhere else.
"A frame which would have taken seven hours to produce would take only ten minutes with the Raptor," claimed Lee. "It's like having forty toasters in a box, and we can buy ten Raptors (at about $\$ 14,000$ a piece) for the cost of one big SGI machine."

Lee is no stranger to the use of top level effects in TV and movie productions. His first use of LightWave for TV came in the Maniac Mansion show, but

European readers will know him best for his work with award-winning directc David Cronenberg. From being co-designer of computer effects on the cu movie Videodrome, he moved on to supervise effects on The Fly and mos recently was in charge of the more subtle, less visible trickery employed in Dea Ringers.

However, though his background is in optical effects, Lee insists that the stol is everything. Despite the use of LightWave plus the Toaster's paint and charas ter-generation software, and even the employment of Dpaint and Brilliance fc backdrops, he has a healthy disregard for effects which hog the limelight.
"I don't want to watch a show where the story halts while you look at a coup of minutes of effects just for the sake of it. In Dead Ringers we used a lot effects which you never even notice. It's not the effects, it's the story.
"The value of the work is in the animator or artist and you see some pretty be stuff when this is forgotten. One of the most common mistakes and the easie thing to fix is bad use of lights and textures which people use just because the can. This breaks the realism, and the only way to get good results is to use re world measurements and real world images as much as possible."

So what advice does he have for aspiring animators?
"The best thing you can do is watch TV and movies and ask yourself how th did that. I grew up with film and television and when I was 14 I got a Super camera and tried out the effects and techniques with no money or special trich Just look and see what's out there and really pay attention.
"You can use a 35 mm camera to take pictures of a city street, have them F on Photo-CD in high quality resolution, then drive your 3D car down a real stre You have to take measurements and think about camera pitch, angle, the re tive scale of objects and if you work with real images and real dimensions eve thing will look a lot more realistic. If you've got the passion for it there's rea nothing to stop you."


Te user needn't hit the Create Key button. Automatic creation of new key frame settings -roves the frustrating practice of continually تing Create Key and also the risk of forgetige which results in the loss of all edits when ou move to another frame.
Then flinally rendering an image, the wiord menu shows the first use of ghtWave's modular design. A render disty pop-up menu offers the user the choice \# Toaster framestore or Picasso II display cards for viewing the frame in full 24 -bit miour as it renders. European users of cards woch as OpalVision, Retina, EGS Spectrum, or Harlequin surely haven't long to wait sefore third party modules make it possible to ander direct from LightWave to these anices.
Speed freaks with deep pockets will no
doubt welcome the all-new ScreamerNet menu, a new set of options to enable LightWave to use faster add-on processors. Primarily designed to use the R4400 processors of the Screamer and Raptor cards running on a Windows NT network, this menu will be the first pressed into use by professional animators.

## PROCESSORS

ScreamerNet software is sold separately with the Raptor card and is used across an ethernet LAN to enable LightWave to make use of remote processors offering many more millions of instructions per second (Mips) than the Amiga's fastest CPU, the 68040, could ever manage.
Up to eight processors can be called upon to cut rendering times to a small fraction of
the original and boost L̦ightWave's performance on an Amiga up to and above that of Softlmage, Wavefront, and Alias packages running on a Silicon Graphics machine. With this sort of performance and such a price tag. LightWave only needs to break down the computer snobbery barrier to make the same impact here as it has in the States.

This has been a quick rundown of the most important new features found in LightWave 3.2, but there are so many improvements that it hasn't been possible to carry out our usual in-depth evaluation, particularly of a package which arrived just before we went to print. Once we've managed to drag Mr Austin away from the program long enough to draw breath, have a meal and a bath, we'll bring you an update of how the new features shape up to intense use.

## director

 ne cult 1 most Deade story
tharac-
nce for
couple
lot of
tty bad easiest
se they
se real

LightWave shows off its marvellous texture control
Amiga Computing resisted the temptation to drool over LightWave for a long time because until last year there was no viable way of using the package on this side of the Atlantic. Buying the NTSC-only Video Toaster just to use LightWave was akin to paying $\$ 2000$ just for the hardware dongle, but when the third party LightRave dongle appeared and put the first cracks in LightWave's NTSC armour, we knew it was only a matter of time before NewTek got the PAL message.

We rave about this package because anyone who has seen it in action, enjoyed the delights of using it to create animations, or seen the output of which it is capable, can fully understand why it has been one of the Amiga's biggest selling points in the US for the past few years. Put simply, the only way to better LightWave as an animation tool for TV, film, or video is to spend tens of thousands of pounds on a Silicon Graphics machine and another $£ 10,000$ or so on the accompanying software.
No desktop software on any other machine, whether Mac or PC, can hold a candle to LightWave, and when compared to Autodesk's powerful 3D Studio software - $£ 2500$ worth of excellent software hampered by a typically Windows-dominated front end - the Amiga's £600 package comes up smelling of roses. So there.

## Uhat is lightllaue?

II you haven't yet figured out what all the fuss is about, mention of this wonderful UightWave program might be leaving you cold, so a little explanation is in order.

Originally released as one element in a package of programs designed to work with NewTek's Video Toaster "TV studio on a board", LightWave quickly grew into something of a legend. It is a 3D modelling and rendering package split into two main sections: the modeller and the layout screens.

In the modeller, a range of advanced tools including taper, shear, bend and so on can be used to create 3D objects in stunning detail. It is here that certain parts of the object are assigned "surfaces", the life blood of any LightWave object.

From the modeller the raw object, complete with named but blank surfaces, is
 passed to the layout section where surfaces can be edited to the heart's content. Luminosity (brightness), colour, bitmap textures, lens flares, procedural textures (such as bump maps), and all the other paraphemalia of the 3D world are added in layout,
...then add lights,
camera and action

animations are created and the final image produced. The reason LightWave is a "must have" is the extreme ease with which animations can quickly be built up and previewed in real time using a system so elegant and easy to use that making an aircraft go through a complex sequence of aerobatic maneouvres, something at which one would baulk using other packages, is a complete doddle. Coupled with the program's excellent photorealistic output and speed of rendering, this ease of animation puts LightWave ahead of any package in its price range, and many beyond it.

For years, LightWave has run only on machines equipped with the Video Toaster, a combination of chroma-keyer, switcher, and video mixer which, though superb, has never appeared in a PAL-compatible form. Years of staring at US images and animations with green eyes and a grim smile are about to end with the release of LightWave 3.2, so if you haven't got the message yet, don't worry - you soon will.

# DEAL DIRECT: <br> 相 <br> 0533 71191 9.30-5PM MON-FRI  

HEWLETT PACKARDCANONETC INIWET CARTRIDCES
H.P. Standard - 51608A H.P. High Capacity H.P. Colour 500C etc. Canón BC-01/BJ 10E MANY MORE TO ORDER 4 REFILLS $£ 11$ 8 REFILLS $£ 16$ 16 REFILLS $£ 29$

## HOW MANY REFILLS:

ASIX-FILL $=6$, QUAD $=4$, TWIN $=2$

Black only Single Refill for Mono Printers Black or Colour Twin-Fill for Mono Printers Tri-Colour ECO SIX-FILL for Colour Printers Black or Colour Quad-Fill Ink for ECO-FILL ECO-FLUSH for Blocked Jets \& Colour change

CALL AT SHOPS IN LEICESTER BITS \& BYTES 5 ST PETERS LANE. IEICESTER LE1 4 GH TEL: 0533513372 10-4PM

FUTURE COMPUTING G2CLONDONRD, OADBY, IECCESTER IEE 2 PF TEL: 0533513372

## SHOPS OPEN

MINIMUM TUES-SAT 9.30-4.30PM PRICE PROMISE WE WILL TRY TO BEAT ANY GENUINE PRICE ADVERTISED. PLEASE CALL FOR QUOTE!!

A MEGA KIT - 1 LITRE CAN DO UP TO 66 REFILLS FOR $£ 49$ THIS KIT WILL REFILL A STANDARD 66 TIMES \& A HIGH CAPACITY 33 TIMES


Amiga 256K - No OCR Software Amiga 256 K Greyscale - 800 DPI "Amiga Gold Award 90\%" 1st Amiga Colour Scanner - 18 bit Amiga Format $85 \%$ Best Colour
$£ 99.00$ £115.00
£225.00

Mouse Mat 6 mm Mouse Mat 11 mm
Parallel Printer Cables
$£ 1.40$ Typists Wrist Rest $£ 3.00$ Printer Stands $£ 4.00 \quad 3.5^{\prime \prime}$ Cleaning Kit
$3.5^{\prime \prime} / 5.25^{\prime \prime}$ Maintenance Kit, 7 Piece with Vacuum + Cleaning Bits, etc. Mesh Screen Filter - Colour U.V. infra red reduction Glass Screen Filter - Colour optical + radiation Amiga/Atari Twin Extension Lead - Mouse/Joystick Amiga/Atari/Sega 2 Metre Joystick Extension Lead

Amiga 200 DPI Mouse
Amiga/CD32 260 DPI
Amiga/ST M/S 400 DPI
"93\% Amiga User" Amiga Optical Mouse Amiga Trackball 320 DPI Amiga/ST Trackball " $92 \%$ Gold Award Winner" Amiga Optical Pen PC Mice + Lemmings S/W Mouse/Joystick Switcher Amiga Power Supply Amiga Disk Drive Amiga 0.5 Meg Upgrade Amiga Upgrades:
£7.00 £11.00

£13.00 $£ 29.00$ £22.00
£27.00
£35.00
£11.00
Hil hardware carries a $£ 9.00$ minimum 12 month guarant $£ 39.00$ £48.50 £16.00

| DELIVERY | UNDER 22 | OVER £20 | VAT |
| :---: | :---: | :---: | :---: |
| RMAL | ADD £ | FREE | 1 OR 2 YEAR WARRAN |
| NEXT DAY | ADD E6 | ADD £ |  |

Please allow 2-28 days for standard delivery, but to speed it up
please write address \& cheque guarantee no. on cheque. Please make cheques payable to "DEAL DIRECT LTD" and post to DEAL DIRECT LTD
DEPT. AMC9, Unit 20, MANDERVELL ROAD, OADBY INDUSTRIAL ESTATE, OADBY, LEICESTER LE2 5 LQ, ENGLAND


VISA

ACCESS-VISA-CHEQUE-POSTAL ORDER - ANY OTHER METHOD OF CLEARED FUNDS SUCH AS BANK TRANSFER - T.T. - LETIER OF CREDIT - ETC

## Peripheral parade

The cottage industry which has built up around LightWave in the US has seen every kind of add-on under the sun, from disks full of objects and textures to programs designed to augment the package or provide features not found in the original. The LightWave invasion is bound to be accompanied by many of these excellent and inexpensive add-ons, so we've taken the trouble to ship a few over for your perusal.

## Dynamic Motion Module

Of all the modern 3D features found in LightWave, one is conspicuous by its absence: dynamics. This is the name given to a program's ability to take real world attributes and forces such as mass, gravity, wind and elasticity into account when rendering a scene. The Silicon Graphics machines can do it, and so can Real 3D v2, so why not LightWave?
Positron Publishing decided that it was high time they added such features to LightWave, and the result is their Dynamic Motion Module. Installing to the same directory as LightWave, DMM is designed as an aid to layout: first load a scene created in LightWave then add the magic ingredient. Each otherwise ordinary object in the scene can be assigned a mass, initial velocity, and elasticity, and can be set to be affected by wind and gravity.
The DMM user is then able to roll a bowling ball at a collection of skittles and have them career and bump around as they would
-then load the scene into
LightWave for rendering. Simple

in real life without every motion having to be set manually. DMM takes care of collisions, bounces, gravity and so on to produce a very believable real world reaction to the effects of other objects and global forces like wind and gravity.
When the scene is completed to the user's satisfaction it can be saved out again as a standard LightWave scene for later use in the layout section. The resulting scene appears much more lifelike thanks to the invisible hands of those real-world forces we experience every day of our lives but take for granted.

Simulating the action of a cue ball hitting a triangle of reds on a snooker table would take an age using keyframe animation, but with DMM it is easy. Just set the mass and elasticity of the balls (you can do this once and copy the attributes to the other balls), and the initial velocity of the cue ball, then sit back while DMM does all the work.

The program's only real limit is that collisions are only detected where a point collides with a polygon which often means that objects have to be given extra points in the area of the expected collision, but this is a small price to pay for DMM's performance. Again, previews can be very slow to generate, as can the final scene data from the inprogress work file, but the results are worth the wait.

As angular velocity (rotation), drag factor and elasticity can be set for each object at the beginning of a scene, it should theoretically be possible to set up any kind of realworld collision you like before saving the scene to LightWave. Any serious animator will want to get his or her hands on this software as soon as possible.

Set the scene in DMM Set the scene in DMM
and make use of gravity or wind...

## Wave Writer

Despite LightWave's excellent use of PostScript Type 1 fonts to produce smooth spline-based, rendered text, the use of fonts in the program is a little limited. In response to this, DBA Unli Graphics have produced Wave Writer, a program dedicated to the sole task of producing three dimensional text for use in LightWave scenes.

The program has an easy-to-use interface and a simple approach to its task, but there are plenty of options lurking below the surface. Users can add text by default as the usual horizontal lines, but they can also fit the text to an arc of a user-defined degree, pin text to a sine wave, write it vertically, rotate the letters at varying angles, and all this in any one or more of the three axes.

Carrying out this sort of operation in LightWave would of course be possible, but much more time consuming. Wave Writer takes the time and the tedium out of the process, and is therefore ideal for those who create a lot of flying logo-style anims.

In addition to creating the text objects, Wave Writer can be use to add bevel effects and set the basic attributes of the various surfaces on each letter, so by the time a piece of text is loaded into LightWave it can be ready to use straight off the bat.

Fairly close control is offered over scene settings such as the number of lights used, their type, position, colour and intensity, and the same with backdrop colour. When saving from Wave Writer, the user saves all these settings in a scene file which can be loaded for instant rendering in LightWave.

Wave Writer is a fairly specialised package and perhaps not for all LightWave users, but those who make extensive use of text, whether for corporate logo or general animation work, would be well advised to give it a whirl.


## Shareware bonanza

Where do I start? The existence of a vibrant LightWave community in the USA also ensures the existence of a huge base of freeware and shareware objects, images, surfaces, scenes and just about everything else the new LightWave owner could want, much of it available through bulletin boards or shareware libraries.

One collection which stands out for closer examination is that put together by Thomas Dawson and currently doing the BBS rounds under the name TDTXTR. Iha. This compilation of four reflection maps, two bump maps, and 19 surfaces has obviously had time and loving attention lavished on it by its creator and the quality shines through.

## IMPRESSIVE

From the new reflection maps, which add a much needed air of variety to the fractal reflections image supplied with LightWave, to the complete surfaces, Tom's textures are well worth a download or a phone call to a shareware library.

Most impressive of all is the fire texture which uses simple techniques not unlike


Tom Dawson's flame, organic armour and marble surfaces in action
> [anclusion

those employed in Surface Pro to create a believable flame effect. A fair amount of editing is required to get the most from some of the surfaces, but they are inven tive enough to provide food for new ideas as well as being ready for instant use.

Commodore's future shape may still be in flux, but one thing is certain: NewTek are going from strength to strength. With the opening of another huge market in the form of Britain and Europe, LightWave is sure to confirm its place as the premier desktop rendering and animation system.
PC snobs can waffle all they like about the charms of the over-priced, over-dinky 3D Studio, but for functionality, ease of use, features and price point

LightWave simply has no match. RoboCop, Star Trek TNG The Movie, Star Trek VI, SeaQuest DSV, and Babylon 5 are just the beginning, and as the ultra expensive world of videography and special effects wakes up to the potential of a LightWave system used either as a modeller or as a rendering system with the Raptor card, you can expect to see Amiga outfits vie with the mighty Industrial Light and Magic for a slice of the big screen pie.

## [antacts

## LightWave 3D:

NewTek Inc 1200 SW Executive Drive

## Topeka

KS 66615
Tel: (0101) 9132713000
Fax: (0101) 9132713001

## Dynamic Motion Module:

## Positron Publishing

1915 N. 121 st Street, Ste. D

## Omaha

NE 68154
Tel: (0101) 4024936280
Fax: (0101) 4024936254

## Wave Writer:

Unili Graphics
143 Lorraine Avenue
Pittsburg
CA 94565
Tel: (0101) 5104391580

## Skyvision:

Robocop Productions Limited
Partnership
49 Ontario Street
3rd Floor
Toronto
Ontario
Canada
M5A 2V1
Tel: (0101) 4163644388

## Surface Pro:

Visual Inspirations
809 West Hollywood
Tampa
FLA 33604
Tel: (0101) 8139356410

## Tom's Textures:

Thomas Dawson 1268-B Auto Park Way Suite 508
Escondido
CA 92029

All RoboCop images used in this issue of Amiga Computing are copyright 1994 SkyVision Entertainment. The rendered 3D RoboCop graphics shown here were produced by Alan Kapler, 3D artist and are reproducea by kind permission


## BACKUP PRO

X -Backup Pro is the most powerful disc backup utility available for the Amiga, BUT DON'T TAKE OUR WORD FOR IT... cU Amiga Magarine, July 199;

## "IT'S UNBEATABLE."

'a veritable bargain at just £39.99 Amiga Computing. Seprember 1993 'fast. flexible and reliable' Amiga Computing. September 1993


+ £1 postage \& packing
THIS PRODUCT MUST NOT BE USED TO INFRINGE COPYRIGHT.

A1200 $\mathbf{1 2 0 0} \mathbf{4 m b}$ memory expansion with clock New state of the art design
32 bit wide auto configuring Fastram.
Zero wait state allows the A1200 to run at full speed.
Increase the speed of the computer by 219\%
Battery backed clock keeps the correct time and date even when the A1200 is switched off. Simple trapdoor installation.

## £179.99

## HARD DISC DRIVES

30 mb only $\mathbf{£ 1 0 9 . 9 9} \mathbf{1 2 0 \mathrm { mb }}$ only $\mathbf{£ 1 8 9 . 9 9}$ 40 mb only $\mathbf{£ 1 1 9 . 9 9} 170 \mathrm{mb}$ only $\mathbf{£ 2 2 4 . 9 9}$ 60 mb only $£ 129.99 \quad 258 \mathrm{mb}$ only $£ 264.99$

Add $£ 289.99$ tor A1200 titted with above drives. Our 2.5" hard drives for the Amiga A1200/A600 offer speedy access times and come complete with
fitting cable, screws and full instructions. They are pre-formatted and have workbench already installed for immediate use. Fully guaranteed for 12 months.
Free fitting service to personal callers


## Soundblaster

The SOUNDBLASTER is a 10 watt stereo amplifier that comes complete with high quality 3 way speakers, power supply and FREE STEREO HEADPHONES! The SOUNDBLASTER adds a new dimension to games playing, imagine stunning stereo sound effects, crystal clear samples and terrific̣ stereo tunes. The SOUNDBLASTER also boosts games playability!
The speakers are powerful 50 watt 3 way units featuring a $3^{\prime \prime}$ woofer, $2^{\prime \prime}$ honker and a $1^{\prime \prime}$ tweeter to provide a powerful crisp sound.

Unlike other disc backup utilities, X-BACKUP PRO is totally automatic and extremely simple to use. It is fully compatible with ALL AMIGA computers.

- Will backup virtually any disc onto another disc.
- Full hard disc backup.
- File management facility.
- Optimise, formats, repairs, verifies.
- Includes the 'AUTOSWITCH' CYCLONE cartridge. Simply plugs into the external disc drive socket at the rear of the Amiga, and plug your external disc drive into the back of the CYCLONE cartridge for unbeatable disc backup power. An external disc drive is required for use with the CYCLONE cartridge. These are available from us priced £54.99.


## FULL MONEY BACK GUARANTEE.

If you can find a more powerful disc backup utility, we will give you your money back.

## SPECIAL OFFER

Deluxe disc drives
Whisper quiet. Slimline design. Suits any Amiga. Cooling vents. Sleek, high quality metal casing. Quality Sony/Citizen drive mechanism. On/Off switch and throughport at the rear
of the drive. Full 880K CYCLONE capacity. Long reach COMPATIBLE connection cable


Order NOW for immediate despatch Tel. 0617247572 Fax 0617244893 Telesales open 9am - 6pm Monday-Friday Access/Visa accepted
Send a cheque/Postal order or credit card details to: Siren Software, Wilton House, Bury Rd, Radcliffe, Manchester M26 9UR England Government, Education and PLC orders welcome.
All prices include VAT at the current rate. Postage and packing will be charged at $£ 3.50$ per order (U.K.), $£ 7.50$ Europe, $£ 12.50$ rest of world.
Please note that 5 working days must be allowed for cheque clearance. Immediate clearance on Building society cheque or Bank Draft.


# $\square \square$ Order hotline. 0793490988 visu $\longrightarrow$ 

## Professional Clipart \& Fonts for All Amigas

| MOXA7-3. XMAS CLIPART <br> Large amosint of Chrigtmes art. <br> Candle, Carol singers ebc., efc. <br> Only 27.00 | MOME4-2. MEN <br> Numerous male pictures. <br> Pumbers, firemen poice, atc., etc. <br> 84.00 | MOBO10-5. EYE CATCHERS <br> Over sixty images including: Flashes, banners, borders \& eye caichers <br> $\$ 10.00$ | MOHA3-1. HALLOWE'EN | MOHO5-2. HOUSES <br> Cottages, Semi detached atc. <br> Al very Nigh quality <br> Only £5.00 |
| :---: | :---: | :---: | :---: | :---: |
| MOWE5-2. WEDDINGS <br> Large amount of Wedding art. <br> includes: Brides, grooms, cakes etc. |  | MOTE5-2. TEDDY BEARS <br> Large collection of Tedoy bears. <br> Teodys pointing, running, sitting etc. | MOVE7-3. VEHICLES <br> Hundreds of vehicies. <br> Including: Planes, cars, etc. | MOSA5-2. SALETIME <br> SALEI 30\% OFF, WPRICE <br> Liquidation, FREE Credt atc. |
| MOAN9-4. ANIMALS <br> Hundreds of Anmal images. <br> Dogs, cats, mammats, birds otc. <br> Only 99.00 | MOKI4-2. KIDS <br> High quality pictures of children playing. crying, running, standing etc. |  <br> MOOF5-2. OFFICE \& BUSINESS <br> Pans, compulers, paper, stamps. <br> People working, telephones etc., etc. | MOSE3-1. SEA LIFE <br> Loads of fish. sewweed, seaguls. fishermen. bosts, beaches. eff. | MOFL4-2. FLORAL |
| MORE6-3. RELIGIOUS <br> Hundreds of religious pictures. <br> Churches, bibles, choirs, families ebc. <br> 8600 | MOBA3-1. BABIES | $\square$ MOCA3-1. CATS | MOWA6-2. WACKY \& COMICAL <br> Numerous comical images. <br> Cantoon clips, funny eat 8 dog pics. | $\square$ MODE3-1. DECORATIVE <br> Himmm Lovely. <br> Includes all 12 months of the year |
| MOSP7-3. SPORTS \& OLYMPICS <br> Various sporting everts etc. <br> Hockey, boxing, furring cycing <br> Only $£ 7.00$ | MOFO7-3. FOOD \& DRINK <br> Hundreds of food 8 drink pichures. <br> Includes: Wines, meals, detserts <br> 87.00 |  | MOSC5-2. SCHOOL <br> Schools, books, Kids, <br> studying, friends, playing etc. | $\square$ MOAN10-4. ANIMALS <br> Hundreds of miscellaneous animais. Includes: Birds, Arctic, Bears, Farm etc. |

PROFESSIONAL VIDEO BACKDRROPS


ANIMATION

(1)ong have I wished for some way to beef up my Amiga 3000T's animation capabilities. I bought a Picasso card, but although I could display pretty pictures in all their 24-bit glory, I still couldn't get them to move.

But now there is a shareware program called MainActor, a sort of ADPro for animators, but a lot cheaper.

MainActor follows ADPro's principles of Loaders and Savers quite closely, with directories for Anim_Loaders/_Savers and Pic_Loaders/_Savers.

Also, like ADPro, MainActor has Universal loaders for automatically sensing the type of animation or picture to be loaded.

One important point to note about MainActor's Universal loaders is that they come in several flavours to support the bestknown graphics boards.

Thus there is a Universal_Retina loader, a Universal_Picassoll loader and one for the Merlin card. An EGS loader has yet to be created, but it is on the author's To-Do-List.

The reason for separate loaders for these boards is that, unlike the Amiga graphics chipset, these cards use the same sort of graphics chips that are used in high-end VGA cards, and are thus more suited to chunky pixel animations (see boxout).

In fact, trying to play a normal ANIM-5 animation that took ten seconds to play back on the Amiga took nearly 13 minutes to play back on the Picasso!

MainActor supports several different ANIM formats from ANIM5 to ANIM8, as well as oider variants such as ANIM3 and ANIMJ. In common with clariSSA, animation palettes can change from frame to frame which certainly will help animators on a limited colour budget.

Other animation formats MainActor

Still animations are a thing of the past. MainActor brings life and meaning to your screen.
supports consist mainly of types best-known on the PC, including DL, FLI, FLC and AVI.
DL is a pretty old format, but there are thousands of FLI and FLC format anims available in the Public Domain. AVI is a much newer format developed by Microsoft, mainly to enable movies to be played in a window on the screen.

The AVI format has several different flavours, but as yet MainActor can only load 8 -bit AVIs and can't cope with the soundtrack.

## SAMPLES

Talking of sound, MainActor has the ability to attach an IFF sample to each individual frame of your animation. Nothing could be simpler. You just tell MainActor which frame to attach the sample to, which channel to play it through and that's it.

MainActor then creates a file called ANIMNAME.snd where ANIMNAME is the name of your animation, and then whenever you use MainActor or MainView - the standalone anim viewer - to show your animation, it automatically plays the sample for you.

The one slight difficulty is that only the path and name of the sample is kept with the anim, which means that you might have

problems if you move your samples drawer.
Creating an animation in MainActor from single frames is a very easy process. Just get all your frames generated by, say, Imagine or Lightwave, set your loader type to Picture and IFF, hit the load button and get the entire picture list. Then choose Select All from the menu and choose your animation saver type.
If you are creating an anim to be played back on the Amiga select one of the ANIM formats, and if you want to give your work to a friend with a PC or graphics card, choose FLI or FLC. Then just hit Save.

MainActor will ask whether you want a Palette-per-frame animation or one with a locked palette and then it will start saving. And just as you can save single frames into an animation, you can also save an animation back out as single frames, in case you want to do some post-processing or just get that one frame to keep as a still.

Converting one sort of anim into another follows the same sort of rules and is just as easy.

There is one additional animation format that hasn't yet been discussed. Because of the Author's close association with Village Tronic, the creators of the Picassoll graphics card, MainActor will also create Picasso format animations which can be in either 8 -bit, 16 -bit or 24 -bit.
MainActor will automatically dither 24-bit


Oh-oh. P've got decompression problems on all the frames that are represented by black bars. The blue bars represent OK decompression times
images down to 16 -bit if you want it to, but 8 bit anims have to have their 24 -bit frames rendered down to 256 colours using some other package, such as ADPro.

Playback speeds using this Picasso format are very impressive and the quality is outstanding. The file size isn't actually as enormous as you think it will be either.

A 350 -frame anim I created as a 256 colour FLC is about 3 MB in size, while its 16bit Picasso counterpart is only 5.5 MB . Not bad for all those extra colours!

One of the bugbears with animation is normally having to either draw or render heaps more frames if you want your animation to pause for a while on a particular frame.

With MainActor this isn't necessary. You can set the timecode for each frame individually, showing the first frame for three seconds, for example, and the last for two seconds.

This isn't possible with the PC anim formats as they don't have a provision for timecoding, but it works just fine with all the ANIM variants and the Picasso format.

## PLAYBACK

Once you have made all these amazing 256 -colour anims, you might look at the file sizes and notice that you don't actually have enough RAM to load them back into MainActor and play them back. You can't even play them back through MainView. What next?

Well, MainActor has a facility to play anims back from hard disk. It might not be a perfect solution but how else are you going to play a 40 MB animation?

And as a matter of fact, MainActor is no slouch when it comes to playback from hard disk. With most of the animations I have created, playing back from hard disk still gives me about 10 frames per second on average.

MainActor has a host of other little features that you might not notice at first because of its amazing ability to make all these anims from your stills, but the fact that you can have up to five animation projects open at any time is a boon, as is MainActor's ARexx interface.

In terms of information gathering, MainActor provides you with a size and time profile to help fine tune your anims. The size profile shows graphically just how large each frame of your animation is, while the time profile shows where potential problems might


## Are your animations chunky enough?

When the Amiga was first dreamt up, its designers saw fit to use a bitplane method of screen representation. That's to say, your four-colour Workbench screen is made up of two bitplanes and the combinations of the two bitplanes give four different colours.

This is an extremely cost-effective way of doing things when the colour count is low, say up to 32 colours (which is five bitplanes). Any more than that and things really start to slow down, which is obviously not acceptable for animątion (or a decent operating system, for that matter).

The originators of the VGA standard on the PC decided to go another route and head straight for a

256 -colour screen format. Now, as we all know, 256 colours can be represented by eight bitplanes, but it's fairly slow, as anyone with an AGA machine who has tried to run their Workbench in that many colours has found out.

If 256 colours is eight bitplanes, then each pixel on the screen could just as easily be represented by a single byte (or eight bits), rather than representing the whole screen as eight rather unwieldy bitplanes.

This has advantages and disadvantages. Firstly, it means that a two-colour chunky pixel screen is as slow as a 256 -colour one, and that it's a lot harder to do things like parallax effects or scrolling. But by the same count it is a lot easier to do stuff like scaling and rotating.

The advent of the CD32, with its Akiko chip responsible for converting chunky pixel information to bitplanes, should mean that sometime in the future we should see Amigas capable of dealing with both sorts of graphics easily.

lurk in the time taken to decode each frame of the animation.

Any black bars in this graph show that those frames are taking too long to decode and need to have changes made.

In conclusion, I would say that MainActor is probably the best piece of software to go on my hard drive this year. It has improved immeasurably since I first started using it when it was version 1.2 back in November last year, and I look forward to the same amount of improvement when I get version 2.
One man on his own has put together a package that beats various commercial packages hands down, and has released it as a shareware product whose registration fee is less than most commercial pieces of software, and is worth a lot more.

In the future I would like to see the developments that the author talks about, such as Mpeg loaders and savers, along with improvement to the ARexx interface and the

ability to do more with the framelist à la clariSSA.

I would also like to see the ability to load AVIs completely, including soundtrack, and more importantly, to be able to save them back out.

All in all, this is an admirable effort by a superb programmer who deserves to have great success.

EG

## SYSTEM ESSEnTIILLS <br> RED $=$ Essential $\mathbf{B L A C K}=$ Recommended



## The bottom line

Supplier: Marcus Moenig Shareware.
Price: $\$ 50$ for registration with a full printed manual, $\$ 25$ for registration with electronic docs.


Tandem CD + IDE Controller for Amiga A1500, A2000, A2500, A3000 \& A4000

## NEW PRODUCT

The new Tandem Card is a multifunction controller for the A1500 to A4000 Computers. The Tandem card supports Mitsumi CD-ROM and also IDE Hard Drives. A supreme value, the Tandem Card provides the most economical CD-ROM and mass storage solutions.

Tandem Features:

- All features as above plus supports SyQuest removable media drive.


## Mitsumi:Doublé Speéd CD-ROM.£169.99






*hicago, Illinois USA, or more specifically, the McCormick Place on 22nd and Lakeshore Drive was the setting for the Consumer Electronics Show this year.

The exhibition hall was not only crammed with neon, lasers and a strong turnout of the US games industry market leaders, but also a welcome reprieve from the 90 F temperatures that besieged it.
The Amiga presence at the show was somewhat disappointing, but when questioned about their European operations, many present had the Amiga machines as an integral part of their marketing game plan. Armed with a spotlight, electrodes and thumbscrews, I set about interrogating the software industry armies.
Ocean has shoals of new releases within its depths. The press pack I was given was as stuffed as a pirahna at a diving contest. First out of the box is an Amiga rendering of the adventures of Mighty Max. Based on the popular (if not ubiquitous) toy character, this game takes inches off your waist and feet off your height.
At only one inch tall, your earth-saving mission is to beat Skull Master (and with a name like that, you can be sure he's not on your side) to the 400 components of one of those doomsday weapons (you know, the ones that come in packs of 10) scattered about the globe. To aid your quest for world peace, the programming deities have bestowed upon Max the gift of teleportation.
The split-screen, two-player mode offers

## Par for the course

the ability to make this game a social event. You and a friend, or closest approximation thereot, can search for different components while thwarting each other in the process.
The game has five scenes, each with five levels, and promises much in the way of entertainment and longevity.
"Devastation is the name of the game." Remember this and you will win - at least if the description of Kid Vicious is anything to go by. This game is designed for those hardened game players who do not understand defeat, will not tolerate failure and all that other gung-ho ranting.

## EmDTIOITS

Remember those moments when you're gripped in the throes of humiliation, having just been trounced by an adversary no bigger than your thumb nail.
That animal desire to pick up your machine and heave it against the hardest object in sight (usually a wall) and then jump up and down on it, until all of a sudden, next time you play the game, you miraculously win.
These are exactly the emotions required to win this game. Kid Vicious is an ex-easy going Neanderthal since usurped from his mundane sabre-tooth tiger-infested life. Kidnapped by evil scientists for use in 21st century experiments, Kid V. has to smash his way home armed only with his club.

This platform game, programmed by

Never has a game had such an influence on people as golf. It can transform them from the placid dull tones of today's business attire, to throwing caution to the wind and dressing up in some serious pimp gear. Also being converted across from another Electronic Arts' Mega Drive title, PGA European Tour is soon to make an appearance on the Amiga fairway.

Golf simulations are nothing new, so when asked what the big deal about this one was, Ocean were only too pleased to point out its features.

Foremost, the game offers five world class courses; Wentworth (England), Crans-sur-Sierre (Switzerland), Le Golf Nationale (France), Valderrama (Spain) and

Forest of Arden (England).
Should you not feel confident, even in the privacy of your own home, about the daunting challenge posed by the world's top courses, there is the option to practice strokes on either the driving range or putting green.
The excuse of rain stopped play cuts no ice here - it is possible to change the weather conditions to suit your tastes via the game's many options.

The social trend of computer games is carried a little further in this incidence, for not only can you compete against the computer (with varying skill levels), but also up to three other players can play with you.


Mutant League Hockey rears its genetically engineered head on the Amiga
the Magnetic Fields team, comprises of five worlds with four sections per level. The object is to find the missing link and figure out how to get back home.

Your chances of success are greatly enhanced by smashing up everything in sight, for the only way to exit a level is to cause a pre-determined amount of damage.
Recall that scene in Back to the Future where Mike Fox is hitching a ride on the back of a jeep while on his skateboard? Ocean have brought this pastime to you via Skitchin', originally an Electronic Arts Mega Drive title now primed for an Amiga conversion.
For years now, people have been bombarded with the phrase "do not try this at home." Well now you can, and I would encourage you to not only try it, but be creative with it too in the safety-conscious computerised version of the "sport".
This race-style game awards points for $360^{\circ}$ turns, twists and backflips while being towed behind a vehicle at reckless speeds on a crowded road.
While encouraged to take as many chances as possible, heed should be paid to the oncoming traffic, liberally scattered obstacles and your opponent - if playing in two-player mode. One to keep an eye out for.
Finally, Ocean has solved the age old question of what do you get when you cross ice hockey with a good healthy
dose of radiation (within government satety limits of course) and the non-human east of Alien I, II and III combined: Mutant League Hockey.
This isometric 3D game features goal posts that turn into monsters in time to devour any opposing player that gets too close. Not only are your opponents equipped with the usual hockey kit, but lasers and other anatomically detrimental devices too.
If you're tired of those tediously tame games where fouling is frowned upon and penalised accordingly, this is for you. To win the player has to play dirty, be mean and if possible, mutate a little too.
You can choose from a team of robots, aliens or trolls. Before you choose the team, I would suggest going for the one with the best weapons as opposed to the superior hockey skills. The game features a hard rock intro sequence and plenty of lively animation sequences.

## fitefillity

The CES event was an open arena for all involved in the gaming industry to show their creative muscle. Aside from the games software houses, there were plenty of other companies trawling the show for business. Their products tend to be a little more generalised in so far as they are targeted at multiple platforms.

They say image is everything and when it comes to gaming software, nothing could be further from the truth. In fact, the graphics have become such a critical part of the game design process that there are companies out there who either sell purpose-built equipment or provide a service that caters for the game player's thirst for graphic perfection.

Two such companies include Alias Research Limited and Wavefront. Not only were they represented by a phalanx of designers and PR people, the companies had set up shop on the floor and were giving slick demonstrations to spellbound audiences, with the aid of their Unix-based Silicon Graphics Indy workstations. Within seconds the overhead
screen was filled with skeletal images being rotated, flipped, squashed and blown up, all at the flick of the wrist and press of a button.
This graphics manipulation technology has been around a while, but now with the addition of ray tracing, surface texturing and surface texture interaction, new dimensions in graphics' development are now being realised.
First the designer will create the skeleton of the object they have visualised. Once deemed gameworthy, the skeleton will be given the digital equivalent of tendons.

These are very similar to human design, in which the middle of one 'bone' is joined to the other via a line (tendon). This technique is important, for it dictates how the skin/texture covering a join will flex and move.

With the tendons now in place, next not quite so virtual).
comes the skin. Several more quick clicks and button presses instantly cover the entity with a fresh coat of new, lifelike skin.
For those of you wondering whether your machine will do justice to the many graphic masterpieces now possible, fret


From left to right clockwise - Skitchin', a skatoboard racing game, Jungle Strike, the classic Moga Drive shoot 'em up, NHL Hockey '94 and PGA European Tour, both superior sports titlos,

Note of interest: Wavefront's software was used in the making of such films like In the Line of Fire, Lawnmower Man, and Aliens III. Lucas Film's Industrial Light and Magic, the movie special-effects gurus, enlisted the help of Alias Research software in the production of The Flintstones - keep an eye out for Dino.

Ever wondered what it would really feel like to be on the receiving end of a 10,000 watt laser discharge. Now you can buy devices that not only help you beat up your on-screen opponent, but will happily beat you up too. Aura Systems Inc, taking the virtual reality concept to the extreme, have come up with virtual pain (although

A device that wears like a ruck sack enables the player to feel every kick, punch and laser beam of their favourite game via a large speaker pressed against their back. It will work with any machine that puts out sound and this masochist's fun factory is scheduled for release around Europe in September.
not. The software employed in the creation of these pseudo-lifeforms is aware of possible target platform limitations and will effectively optimize the graphics produced accordingly.
The good news here is that since the optimization process is all built in and therefore simple to apply, it will be a good while before your machine is not eligible for these visual assaults.
Despite being a US show and not wishing to appear overtly nationalist (just a little proud), it was good to witness a strong British presence. Pursuant to many conversations, it was clear that these companies rated the Amiga as strongly as Sega, Nintendo or equivalent, and had every intention of its continued support and development, regardless of its popularity in the States.
Britain and its support for the Amiga range has for a long time been setting the pace in the recreational computing world. The Consumer Electronics Show and its participants gave me cause to think this will continue for a long while to come.
$A C$

# FIVE STAR PD <br> all PD S Sharelliare 

OUALITY PD \& SHAREWARE: WE STOCK DVER 4500 + DISKS
PRILE \& HOW TO DRDER

 PD Prices......... 99 p per disk please add IDo for postage per orrder (LKK]

All titles are compatible with all Amiga (Untess stated) $\square$ $\xrightarrow{\text { panababe toi FiVE STAR } P D}$

We apen 7 daus a week

## we also stock FRED-FISH 1-890 *T-BAGS 1-57 *LS.S.D. does 1-46 *SCOPES 1-220 *ASSASSIN 1-150

|  | GAMES | EDUCATION | DMIMIITINSSING Demo of vhat ie matinating DII6 DEAD DUNCETHRSK pood dince nuic hued feto |
| :---: | :---: | :---: | :---: |
| UW01 +AGENE mpun help we trac poar finily the UKX + AMIGA SISTBM TESERCLI, tase Ister Uns LüEL DESTCNER Good hed doygr UDOI DATA BESE WOMKSHOP [1 didu) Dathus camplation UIW NNGGA FOXDT.P. Dok Tep Räbihing for te Arip <br>  <br>  <br>  D7e PAINT AND ANMATE Toe to puitt asd ainate U13 EFORHITHMS 4 <br> U195 AMIBASE-Ploll rganded tre het tome bo U23 AMOS PANT Enir Daue thunD paist D133 SFECAITOF Mak poui Anip pied nert han <br>  WSN + VIDFO TOOL (S) Lat dVibe titer \& popims <br>  <br>  <br>  U391 ROWISMENLS Yer em bukerma progan U34 EMULATOR COULETDONII A6t, FC, Mic. PCuis, (Qetcemilhor (3WH13 eth) <br>  | GE |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  | dena, hsofil wigy 1 tin <br>  <br> pisiomsemerin Bmommed |
|  |  |  |  |
|  |  |  | epix pung nowin ifommid <br> DIBSTARTIE MEGADEMOA (ASMAIIDO) <br>  |
|  |  |  |  |
|  |  |  aref fion Matsilo gana We rournend poite fin colncion. |  D152 THE BECTBICTOUCH Mali Mool reter ek |
|  |  |  | DIHACID NIT 5 trliat in that Das FONTER hsodite Ile 2 deno urinution |
|  |  |  | Dasi foxme heradte Eite 2 deno urinution Dosi Manca Wodid Milir nurpibides |
|  |  |  | DS2 MAPAKEX LANGLem low le peoklopnee <br>  |
|  |  | mantem |  |
|  | G34DON: |  |  D2ss thocepectavort 1 sint t pans |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  | Gwh HMcocllifr knur mor | mamesmel | A1200 0NLY |
|  |  |  |  |
|  |  |  |  atin andamatincty. maxiesh inCl |
|  |  |  <br>  |  |
|  |  |  |  |
|  |  | E35CHESHELPEK deuthar muqu |  |
|  |  |  |  wel wamentid |
|  |  | E\%COMPUTEC |  |
|  |  |  |  |
|  |  |  |  ACAIISEPMESN NIGHT! |
|  |  |  |  achis motor Invadez 2 (2Dsas) Ver plunitic INVADR dutekt Maunnentad AUIS FONT OF SCLIE Santigy redor dem ant dina |
|  |  | EHSTEAM EVIINEVLCur ang aritatice dide Skan Eyping |  |
|  |  |  |  |
|  |  | B6 GiSTURENE ENGINEQS aw atintino of the gar tuitize etpre |  |
|  |  |  | fen Frace MGENSCHRONA pod deno |
|  |  |  tualing <br> E7 APMECATCHES God guphiseny to pioy E5CCOSSMAZE \& CKIPTOKIMG |  <br>  <br>  contand to war Worbend (FDD repared) |
|  |  |  |  |
|  |  |  |  |
|  |  |  <br>  |  ghplicket requires 4 meghifts ACiNat WDRKREVCH 3 SCREFN Gerthor dop for AlD0 (sat for trginams) |
|  |  |  |  |
|  |  | fill mem diva |  |
|  |  | BOO1 +ERLOR NFOGsith co emirgan mays. <br>  <br> Bens + WOMDD WAR: Ind Ward Wer vith nupupa |  |
|  |  |  |  <br>  fill computhle veit ay ATige |
|  |  |  |  |
|  |  |  sincepuyamillountroted |  <br>  It 7 (1diduper wiune) |
|  |  |  |  |
|  |  |  <br>  |  <br>  |
| USS000F |  | peabise et |  |
|  |  | pernate et <br>  <br>  BM HICHWAY CODETUTOR QUEDION7ANSWER |  <br>  <br>  |
| USM ISDPMOMAEER2 [2M\% (NT1 |  |  |  |
|  |  |  |  doynte aftr lige dove\| Raurnmad <br>  |
|  |  |  |  |
|  |  |  |  |
|  | CStal |  | MANAREBOKIT VLALret nua ASO SOFTWAKE <br> MGAGTAIMOUTL-ACATETER SSENFOEC. <br> NGASA ACTKN IEPLAT WGGOMLEACTCD REFLAYO: |
|  |  |  |  |
|  |  | ELU WORLD GEOGRPHY mup ofte wand E Bra <br>  |  GALODAGI BUTZ SCREENBLANKER |
|  |  |  |  |
|  |  |  |  |
|  |  | gide $v$ miling miak. mannerial | AGAMOIFST GIIF 2dylur CIIF pi in IKallend AGAMAGA DLUGVOSTIC-NEW motn toter |
|  |  |  |  |
|  |  |  | AD5 BLACK BOABD NGA docet imay prowne |
|  |  |  |  |
|  |  |  the van reet fur tis Ofprpio. Remanended <br>  |  at kne Aari mes tration |
|  |  |  |  |
|  |  |  ElIL HOW THE FMATH BECAKI hoon the lig ling |  |
|  |  |  |  adorr tereax tandod, belliut |
|  | 2 L |  |  |
| LTa Fow | naity pro nitery | EITPMITT BOX DENOKilipart pogan EIS TOBKBENCH2Titeral (we give) |  |
|  | Gsusuberom Cat Nov verial ion | Elignsowar Quitorduam |  |
| 8witmax Mralm | C56R | Ema Imos mitis nit ney dienfil pup |  |
|  |  |  |  |
| $\operatorname{trnaz}$ |  |  | OOT - 4 wimu reninas AS0EEMU DDSK PREF A INSTALLER intiling |
|  |  | - |  |
|  |  |  | AGAL15 WBSHADDSK PIEF ANSTALER intaing <br> Wllyprefot the hand disk <br>  <br> SEEGMES UTIL EFC FOR MORE AI300 SOFTWAE |
|  |  |  <br>  |  |
|  |  |  |  |
|  |  |  | ANIMATIONS <br> AESSPNCE PRCBE wand for dimiliffen <br>  A0M2UEA ANTCH (ib+) We al how liferahth A19THELNING WORLDSUDESHOW A189 PEMM OFTHEDEEP (Idids) Incondte lidelom of en |
| USEHOW TOCKSIEAUTOBOOTD |  | (1) |  |
| tweuth | Oencol |  |  |
| + |  |  |  |
| FA |  |  |  |
|  |  |  | Fige cutures |
| UTESTI |  |  |  |
| 17 |  |  | A\|93NEMESIS CONIC Aritult cans MA ie quar <br>  A2LIALINS The hee tile didehork k dem |
| UTYDISKRPARAR |  |  |  |
|  |  | $1:+1] / \square E$ | A2\%MONGA COMIC Cak, dicand moor ade <br>  <br> A3\%FIST CAR Nat Almel te eqensine ar inde how |
| m |  |  |  |
|  cquity of yeu HARO DRNE \&DEXK DIVE |  |  | A3\% Fist Car Nat Alzoe/ hetpersie car nide how <br> MUSIC <br> Men Kenstr bors Good, We Wiart Sont Puy wet <br>  <br>  <br>  Mont POFPYE nert lie lean loy, rery pod MI5 +CD FAYER Simulta (D) erner MIEt + IAM TOOSEXI (2dsbu) fill way <br>  <br>  |
|  |  |  |  |
|  |  |  |  |
| ゅтв wi |  |  |  |
|  |  |  |  |
|  |  |  |  |
| $\begin{aligned} & \text { ICON MLS } \\ & \text { iver } \end{aligned}$ |  |  |  |
|  UTM THIREXTRECEVER Iheld a thent movina) |  |  |  |

ZX SPECTRUM 4BK VR So Original speccy Games Packs  STIL ONLY $£ 4.99$ [ALL AMIEAS]

NEWN THTLES

|  |
| :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

101 GAME PACK


| birds 8 <br> cats 1 <br> dogs 10 <br> flowers 10 <br> horses 2 <br> instruments 3 <br> world maps 15 <br> reptiles 4 <br> trees 10 <br> Number represe | cars 1 <br> dinosaurs 2 <br> fishes 7 <br> fruits 3 <br> insects 5 <br> mammals 12 <br> planes 2 <br> ships 2 <br> vegetables 4 <br> s number of did | proteruivesi ebser dy at are ofile Weples quity ere mintins Prevk y whato set a suppla, pher anter a atikget ade mpast a capple phatest stme anderies Al depor dicr ast beriend anadid dive. Selatitelory DTh inder podage if. availahle. |
| :---: | :---: | :---: |
| Number represents number of disks availahle. We also stock vast collections of black \& white clipart |  |  |
| New Pack |  |  |
|  |  |  |
| COMPUGRAPHIC FONTS anilable pack 1,2 or 3 peck ADORE TYFE 1 FONTS avaiable pack 1,2 er 3 pock All pads above are suitable for Propuge. Papostram, find cepy et (plese check manual for computhilim). |  |  |
| COLOUK IFF FONTS anilable pack 1 or pack 2. Stunning 8-16 colour lagge celour fant ideal for headlines, deme ecc. Scitalle for Dpuint etc. BIT MAP CIPARTS pad areilable. Ver high quality dipert for virtally all DTP \& Paini programs |  |  |
| "All pacts abvie came an 5 disbe each and arr garantioni. No fonts ar dipart impge ars reprotited |  |  |

[^1](i)ith the advent of CD32, A1200 owners have been crying out for an adapter that will allow them access to the vast world of CD-ROM.
Gasteiner have answered the call with a PCMCIA CD1200 Controller that allows the user to connect any Mitsumi LUOO5 or the sew DoubleSpeed FX001D to their A1200.
The kit provides the owner with a somethat cheap but effective PCMCIA controller ahich is easy to fit. However, connecting a thive is more of a challenge. The instructions on connection are fairly sparse and incorrect n certain areas.
The single page manual states that the ribbon cable must be fitted with the coloured adge on the right. This is incorrect and must actually be fitted with the coloured edge on the left - quite a drastic and time consuming mistake!
Gasteiner also provide an installer disk which will allow you to install the necessary sothware in order to allow your A1200 to communicate with your CD drive.

This includes necessary devices so that


The FindCD program supplied with the CD1200 Controller takes the strain when setting up communication between your A1200 and the hardware

The world of [D-ROM comes to the Al2OD with
[1200 [ontroller the coleod Controller from Casteiner. Steve Uhite puts it through the ringer!
your Amiga can understand the CD drive device and the excellent JukeBox program which allows you to control music CDs with great ease.

Obviously, any music CDs will not be able to be diverted through the A1200 and must be connected to an amplifier or stereo via the headphone socket on the particular $C D$ drive you are using.
Using the JukeBox program you can play, pause, forward, rewind, search for specific tracks and shuffle tracks - in fact, all the things you can do with a professional perso nal CD player.
Considering the poor documentation, the actual installer software is very easy to use and contains all the programs you will need in order to get your CD drive up and running.
The main program is called FindCD and automatically searches for a suitable CD drive. The user has to do very little as the program performs all the difficult setting up procedures itself.

So what is the major advantage of having a CD drive connected to an A1200? Certainly the most important advantage is the ability to access large amounts of data without the restrictions of a hard drive or more importantly a floppy disk. Files that take up large


JukeBox allows you to control music CDs with the same flexibility you would find with a dedicated personal CD player
warehouses. Performance wise, the PCMCIA adapter is fairly slow, mainly due to the 16 -bit architecture, but it is adequate for most users.
As for software, there is a wealth of PD disks that offer a wide selection of programs and utilities on a single CD. Unfortunately, most of these disks are poorly put together and in tests carried out, many of the programs crashed when run.
CD32 also offers a great deal of software, although any that rely on the internal hardware specific to CD32 will not work. There is no auto boot option for disks, so running games can prove a problem.
Users will need to study startup-sequences as it is necessary to run the contents of game disks via Workbench. This could cause problems for those A1200 owners not totally proficient with AmigaDOS.
The fact that the disks do not auto boot means that the contents of game disks can be easily accessed and copied to a hard drive. To test this we managed to install Body Blows CD32 onto a hard drive.
It did take up 14 Mb but it ran successfully without the need for the CD. Obviously, we deleted it immediately.
Li. ${ }^{\prime}$


There are plonty of CD PD disks avail-
able. Unfortunately, most are poorly compiled and crash regularly

The bottom line here is whether or not it is worth forking out $£ 69$ for the Controller and an extra $£ 150-£ 250$ for a compatible CD drive. There really isn't enough Amiga application software on CD and the material that is available isn't of a great quality.

The fact that you can now buy a CD32 with software for only $£ 299.99$ really doesn't make the purchase of an A1200 CD drive set-up a financially sound investment - not at the moment anyway.
If an A 1200 CD drive is something you definitely want, it would probably be wiser to wait for the Zappo Smart Drive from ZCL as it promises the compatibility of the CD1200 Controller plus an external power supply, all for the price of $£ 199.99$.
The Zappo also uses software to emulate the Planar chip which should give A1200 owners total access to all CD32 software, something the CD1200 Controller doesn't offer.
amounts of storage space such as compugraphic fonts, clipart, Jpeg images, textures and 3D objects can all be accessed in great numbers from $C D$.

Musicians also benefit considerably from the storage capacity of CD as sound samples, one of the most storage-hungry file types around, can easily be fitted onto $C D$ in vast amounts and of a high quality.
However, if you want to power the drive you will need to purchase a standard power supply. These can be found in most hard drive kits although they can be bought separately from most reputable electrical

## The bottom line

Product: CD1200 Controller Supplier: Gasteiner

Price: £69
Tel: 081-345 6000
Ease of use $-6$
Implementation ..... $-7$
Value for money ..... 6
Overall ..... $-6$

陽l'd like to utter a few words concerning Commodore and their future. Let's start with the basics, will there be one?

Looking abruptly away from Commodore's corporate capers - which are worrying indeed - what are they doing to keep the Amiga afloat? Their move of discontinuing their PC manufacturing was just a smoke screen wasn't it?
After all, they don't really need it when they've got the Amiga department - which can be set to making PowerPCs running WindowsNT - do they? At the very least, Apple kept System 7 as the main OS of their PowerMACs and left Windows as a software option.
"We're developing a chip of our own" Mr. Pleasance blurted - hal I'll bet you whatever you've got, CBM's thrown a few nickels into Intel's and IBM's joint PowerPC project. That would certainly fit in with the "other well known companies" he spoke of.

So, when the new Power Amiga arrives next spring, it looks like Commodore's about to loose at least one user.

I don't want a PC and I never wanted one. Tell you what, if CBM's dropping the Amiga OS and all the other things that make the Amiga unique and the greatest if overpriced in the higher range - all-round computer ever built, why not let me take care of the bits they abandoned, I'll do it, no charge.

As far as the Amiga's future is concerned there's still no fresh news at this stage - check the news pages for late breaking info.

But essentially the ball is in the buyers court. In my opinion the best possible outcome would be for the new owners to licence manufacture of the Amiga to anyone willing to subscribe to a franchise deal.

That way development could continue courtesy of the revenue generated, the word would be spread far and wide, third-party developers would be inspired, and the machine would finally

## Нош Swede

be given the opportunity that the PC has enjoyed since day one.

The ability for anyone with the means to build PCs is the only reason that this particular technological dinosaur has attained and maintained its position as the most widespread computer platform on the planet.

As for your concerns about Windows NT, I think you're slightly confused. According to our sources, Windows NT is going to be an option and not a complete replacement for the Amiga's own OS.

As for your hatred of other platforms, frankly I think you're being a little naive. As Britain may discover at its cost, European uninaturalism isn't a viable option in a rapidly shrinking world - and the same is true in the microcosm of the computer industry.
The one thing that's kept the Amiga in the minor leagues in a corporate sense has been it's inability to assimilate easily into big business. If adding support for additional operating systems can remove this particular obstacle it can only be a good thing.

## A readers apinion



Concerning the new layout; so you've replaced the coloured boxes with coloured frames and added a few connecting lines (would you believe, I first thought that you'd included an electronics CAD package on the disk?) Fine with me, but why
have you ditched a timeless logo for $a$ definitely mid-80s one?

As for the masthead I'm afraid it's a classic case of taste, you don't like it, most people do, that's life! Democracy in action.

However it's worth putting the ques tion of design into context. The entire redesign of Amiga Computing was achieved in less than a month. Something which in my opinion was a near miracle.

Personally I think the man responsible, namely Tym Lecky - our resident art editor - can't be praised highly enough. I suggest you glance around the magazine and count the number of unique design elements - the ESP logo being a classic example - then ask yourself was this petty criticism really justified.

## Annoying aduerts

I know that advertising makes a major component of the stuff that flows through a magazine's veins, but do you really want any part with people whose ads say things like:
"Women should stay in the kitchen" and here's a manual on how to get 'em back in there. "How to get a one night stand." "Better get some muscles kid" or "Hey, get hold of our totally opaque shades, with flashing lights on the inside - recommended by the Playboy magazine."

These dubious messages are obviously created by people who have stereotyped Amiga users as pimpled teenagers who say a prayer to plumber Mario every evening before hanging up their anoraks. I for one don't feel worthy of

I am writing this letter to you because I for one would like to see a tutorial on Blitz Basic 2 in your magazine.

Other magazines have had tutorials on Blitz Basic 2 but they were on how to make games. What about the other side of programming like application programs such as the one on last month's magazine Phonelt.

I know there are a lot of readers besides me out there who would like to see a tutorial on applications.

Many would-be applications programmers have turned their noses up at Amos simply because it is not possible to write programs that communicate with the user through Intuition windows and gadgets.

During my attempts to master Amos it's become clear that all the books are geared towards putting games together. I feel I am the only one trying to develop applications.

Why are all books and mag tutorials on "How to put games together?"

Also, are there going to be any books on Blitz Basic 2?
K. Winspear, Hartlepool

Your prayers are answered. In this very issue we embark on the first of a six-part tutorial hosted by Mike Milne and dedicated to Blitz Basic 2. But perhaps more importantly, the new series is geared exclusively to the development of applications.
As for your Amos comments, it's true the language isn't particularly au fait with intuition. However, if you check out last month's Amos Insight you'll discover an add-on for Amos designed specifically to incorporate elements from intuition into Amos programs.

As for a third-party reference manual for Blitz Basic, I'm afraid the news isn't quite so good. As far as I'm aware there aren't any plans, however the program does have an official UK distributor who may be able to help. Contact Guildhall Leisure Services on: 0302890000.

# Full of compliments 

```
During the last month I have dealt with two "advertisers"
in your excellent magazine: Deltrax PD and Mr J
Pftchard (author of Epochmaster)
    Both responded by retum of post and in both I also
had to seek further help which was an equally speedy
and helpful service.
    If you have any spare room in your mags, I'd be
```

grateful if you would publicly praise these two.
Mr WJ Hill, Somerset
We always have space for the occasional bit of praise - especially if it's directed towards an advertiser. Our usual mail in this area tends to be less than complimentary.

About the "full price packages" you include. I can see two options: either leave them out completely, or do so for a couple of months at a time and save up.

You'see, we don't really need crappy, second, or even third-rate software like Fusion- paint or Cinemorph. It's clear to all of us - or so I hope - that CoverDisk "freebies" are just a way to squeeze the last drops of juice out of an obsolete or vastly inferior piece of software.

I can but imagine how many sales GVP lost to ASDG in the morphing combat, their effort was truly pathetic and rather comparable with VMorph - written in Amos. Admittedly there have been many gems; Maxiplan4, SBase, Protext and Bars\&Pipes2Jr spring to mind.

This is what we want. Even if these two are old versions (no I don't include B\&P there) and the upgrade offers usually available make less than a difference from full price, it's too bad the save-up option is unrealistic.

Truly, the publishers aren't likely to let go of their premium software, no matter what you offer them, but it would certainly have been a jolly one.

This leaves us with dropping the "freebies", or carrying on like you've done so far - most likely, since you've got a reader's survey to lean back on. But at least do
me one favour. Stop lavishing lousy software with astounding superlatives, praising them and rising them, to the skies, stop printing what they sold 13 years ago and please, once you've had say a word processor on the disk, don't come later with another one which is of the same, or even lower standard.

Jonny Johansson, Sweden
In reference to your CoverDisk queries, l'd tend to agree. In an ideal world we'd always bring you the latest and best software. But alas fierce competition and the availability of suitable software doesn't always make it possible.

However your opinioñ does raise an interesting point. Firstly commercial CoverDisks are killing the Amiga there's no argument there. Ideally we'd abandon the practise entirely and return to strictly $P D$ and Shareware.

In an attempt to do exactly that, our ex-editor Stevie Kennedy sent an open letter to all our competitors asking for a
moratorium on commercial software. Needless to say the response wasn't exactly enthusiastic - the reason being the masonry attitude of people like yourself.

The cause of occasional crap CoverDisks across all the Amiga magazines is punter pressure, and an almost complete lack of reader loyalty from the majority of the buying public.
If we dropped our commercial software I can guarantee Amiga Computing would be transformed from one of the best-selling Amiga magazines to the worst almost overnight.
OK, so you like getting something for nothing - who doesn't - but if this madness continues you'll get more and more golden oldies to run on a machine that nobody can be bothered developing for - after all what's the point the markets flooded right!
I hope you like this months Scroller II CoverDisk - it should completely scupper the market for video titlers for quite some time..

I am trying to follow the tutorial for assembler by Mark Jackson, but I am not quite sure what it is I am supposed to do.

Firstly, do I print the source code from the cover disk then type it in to the assembler that I managed to get hold of at the start of this tutorial, or can I load the source code from the coverdisk directly into my assembler? I have tried this but I just get a lot of jumbled letters.

Secondly, where is the source code located on the CoverDisk of June 94 issue?

And for something completely different, the new look mag. My May issue came with pages 99 to 130 upside down and back to front. Now that's what I call a new look!

Mr G Wood, Cheshire
As for you source code problems there's no reason why you shouldn't be able to load the code into the assembler direct from disk - that's why it's there.

However, if you're printing the code first there could be problems. Like any programming language syntax is everything, and if the code is being reformatted prior to printing there's a good chance the syntax is being altered and the subsequent program corrupted. Now for a mixture of
good and bad news. The good news is that you shoufdn't have any more problems with Mark 'Jackson's tutorial - and now for the bad news - as it's being discontinued.

The reason for this rather drastic step has been the unreliability of Mr Jackson. Although we would love to continue the series Mark has already missed one issue entirely and has proved impossible to contact ever since.

However, now for the really good news. As a replacement for the assembler column, Paul Overaa kicks off a six part Devpac tutorial.

Unlike Mr Jackson, Paul is a professional journalist and programmer who's already published a variety of programming reference manuals through Bruce Smith Books.

As a result you couldn't be in safer hands. And better still, Paul has agreed to supply additional info boxes which should enable the tutorial and ; source code to be used on a variety of assemblers and not just Devpac.

As for the unique design concept of your particular copy, I'm afraid that's something of a mystery. If anyone else has suffered the same problem please get in touch - it could be time to have a word with the printers.

# WE MUST BE MAD I! 

# AMAZING OFFERS ON 3.5" DSDD DISKS 

25X3.5" DSDD 135tpi DISKS 50X3.5" DSDD 135tpi DISKS $£ 8.95$ 100X3.5" DSDD 135tpi DISKS £16.45 200X3.5" DSDD 135tpi DISKS £31.95 300X3.5" DSDD 135tpi DISKS £59.95<br>ALL DISKS INCLUDE VAT AND COME COMPLETE WITH LABELS CERTIFIED 100\% ERROR FREE 2 FOR 1 GUARANTEE

## SPE CMAL O FEE

200X 3.5" DSDD DISKS +2X 100 CAP. BOXES

\section*{SPECIAL OFFER A1200 USERS ONLY <br> | SYNDICATE | $£ 12.95$ |
| :--- | ---: |
| CHAOS ENGINE | $£ 12.95$ |
| NICK FALDO'S GOLF | $£ 9.95$ |
| PINBALL FANTASIES | $£ 9.95$ |}

## ONLY WHILE STOCKS LAST

## DISK STORAGE BOXES

OUR FLIP TOP STORAGE BOXES ARE OF A HIGH QUALITY ANTI-STATIC DESIGN AND COME COMPLETE WITH LOCK,

TWO KEYS AND AMPLE DIVIDERS
(EXCEPT THE 10 AND 20 CAPACITY BOXES WHICH ARE NOT LOCKABLE).
3.5" X 100 CAPACITY BOX
£4.75
3.5" X 50 CAPACITY BOX
£3.50
$3.5^{\prime \prime}$ X 20 CAPACITY BOX
£2.50
$3.5^{\prime \prime}$ X 10 CAPACITY BOX
£0.95

## BANX TYPE STORAGE BOX

THIS VERY POPULAR DRAWER STYLE BOX IS IDEAL FOR STACKING. BOXES CAN BE LINKED TOGETHER HORIZONTALLY AND VERTICALLY

TO GIVE LARGE AMOUNTS OF STOPAGE IN LIMITED SPACE
EACH BOX HOLDS 90 DISKS AND COMES WITH KEYS AND DIVIDERS


## GENERAL ACCESSORIES

| QUALITY MOUSE MAT | $£ 2.50$ |
| :--- | ---: |
| MOUSE POCKET | $£ 1.50$ |
| 3.5" HEAD CLEANING DISK | $£ 1.95$ |
| AMIGA EXTERNAL DISK DRIVE | $£ 54.95$ |
| AMIGA REPLACEMENT MOUSE | $£ 12.95$ |
| AMIGA A500 DUST COVER | $£ 2.95$ |
| AMIGA A600 DUST COVER | $£ 2.95$ |
| AMIGA A1200 DUST COVER | $£ 2.95$ |

MOUSE POCKET

E150
3.5" HEAD CLEANING DISK£54.95
AMIGA REPLACEMENT MOUSE£2.95
AMIGA A600 DUST COVER ..... £2.95
 MOUSE MAT, MOUSE POCKET, CLEANING DISK, DUST COVER (PLEASE STATE A500, A600 OR A1200)


OTHER ACCESSORIES
AMIGA TO SCART CABLE ..... $£ 12.95$
JOYSTICK EXT. CABLE ..... $£ 4.95$
ROBOSHIFT MSE/JSTICK SWITCH £12.95AMIGA NULL MODEM CABLE £9.95MSE/JSTICK TWIN EXTENDERS $£ 5.95$AMIGA ANALOGUE J/STICK AD. $£ 5.95$A500 REPLACEMENT MODULATOR $£ 39.95$
AMIGA STEREO SPEAKERS ..... £17.95
AMIGA PRO STEREO SPEAKERS $£ 54.95$
THIS MONTHS SPECIAL OFFERS
SKIDMARKS ..... £17.95
MONKEY ISLAND 2
WORDWORTH V3 ZOOL 2 ..... $£ 59.95$
COMBAT AIR PATROL ..... £17.95
WIZ N LIZ ..... £14.95
MICRO MACHINES ..... £17.95
CANNON FODDER ..... £19.95
ONLY WHILE STOCKS LAST - ONLY WHILE STOCKS LAST
VISIT OUR SHOP WHERE THESE AND•MANY MOREPRODUCTS ARE ON DISPLAY ALL AT LOW PRICES


PLEASE ADD £3.50 FOR P\&P
 74 OLDBURY ROAD, ROWLEY REGIS, WARLEY, WEST MIDLANDS B65 OJS

[^2]
# WORLD CLASS $N=1 / /$ PRODUCTS . \& NEW LOW PRICES <br> <br> A1230-II 40 mнz \& 50 mhz ACCELERATORS <br> <br> A1230-II 40 mнz \& 50 mhz ACCELERATORS <br> FOR AMIGA 1200 




- Unique Feature Connector for Module Expansion - Mermory Management Unit on 50we Version - Optianal 50 ns 32 Te RAM Upgrade
- Battery Backed Clock
- Battery Backed Clock
- Moptional 40ure or 50were 66882 Maths Co-Processor
- Kickstart Remapping Technology

 MMU OR FPU


SCSI-II EXPANSION MODULE .n.
$\Sigma 59$
NEW LOW PRICES A1230-II ACCELERATOR
- Hign Scous, uninu MPAC Frectroley

40MHz 68030

| LULD RAM | 4"0 RAM + FPU | BNO RAM |
| :---: | :---: | :---: |
| $£ 429$ | $\Sigma 529$ | $£ 629$ |

$£ 499$ $\Sigma 599$
$\Sigma 699$

## G-FORCE $040 \quad 40$ mнz ACCELERATORS



## 8-BIT SOUHD SAMPLER

## VIDEO EFFECTS




| RAM BOARD UPGRA |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
|  |  |  |  |  |

IMAGE PROCESSING


FOR A3000/A4000 make your amiga the FASTEST IN THE WORLD!
 moun 40 with up 1032 vo of super tast 32 on the board. The Standard board comes with 4 ve RAM - see ofl for RAM upgrases
To futther increase memory from the maximum 32w avalable
on the $G$-Force 040 card. add one of the two 95 ve memory expansion boards avalable-see lett. These enable you to lake your total memory up to an am
comnected to this blazing processor.
For maximum performance, a socond cotional module will be avalable soon for a fut 32-bit SCSI2FAST interface, capable
of data transler speeds up to an amazing 10 us per second - Fast 040 Accelerator + RAM for A3000/A4000 40uhz 68040 Processor

- 40vor 68882 FPU Buitt-in to the 68040 Chip - Make your A4000/030 at least 12 Times Quicker Sus RAM Fitted, G-FORCE 040 Total of 128 ur via an Extra Card-see left SCSI-HI Fast Optional
ACCELERATORS
FOR AMIGA 1500 \& 2000



## THE SILICA SERVICE

- une ser 300 catt-We are solid. relatie and protitioin.



## MAIL ORDER RUS TEMMCAL 081-309 1111

Hatmenur hond, Socup, Kent
pLUS BRANCHES AT,

## CARDIFF

 CAhoIff Debantans - 46-505: Davif's Day 0272291021 CHELMSFORD Debenlams-46-30 S2. Duwls Why 0222399789 CROYDON Detentams - (had fiar), 11-31 Nerth Ens 051-688 4455 GLASGOW Detenhans - Lin loei 97 Apvit Syent 041.221 0088 GUILDFORD Drbentams-Dithail Milbrook 0483301300

 IPSWICH Datentans-ave Faxi, Westigate Sreen 0473221313 $\begin{array}{lll}\text { IPSWICH } & \text { Datentans-avs Fax, Wesipate Strent } 0473221313 \\ \text { LONDON } & 52 \text { Tettintam Court Road - } \quad 071-5804000\end{array}$ | LONDON | 52 Tettentam Court Road | $071-5804000$ |
| :--- | :--- | :--- | :--- |
| LONDON | Detentams-ar Rivet 334 arford St | $071-493 \quad 3735$ | LONDON Selfrifges - Senme thui 389 Oitord $\$$ 071-629 1234 LUTON Desentams - Auflowi Andall Cantre 058221201 MANCHESTER Desentams-Doy hasi, Markm Streat 061-832 8666 PLYMOUTH Debentams-ard foos, Mojal Parade 0752266666 SHEFFIELD Desertams avfooul. Tie Notr 0742768611 SIDCUP 1-4The Nass Hatterey Rasd 081-302 8811 \$OUTHAMPTOM Dotentams* |leffoil Oivensuay 0703223888 \$OUTHEND

THURROCK

## PLEASE SEND ME AN AMIGA CATALOGUE

Mr/Mrs/Miss/Ms:
Sumame:
Company at extatu

## Address:

## Tel (Home)

Tel (Work):
Which computer(s), if any, do you own?


## Warkbench wories

$3]$I am fairly new to computing and only recently bought myself an A1200 with a 64 Mb hard drive. I am extremely pleased with the machine and am feverishly lapping up your AmigaDOS tutorial.
My hard drive is partitioned into two drives - Work: and DHO:. I have successfully installed Workbench 3 onto the Work: partition and am now busily installing games to DHO:

Everything was working beautifully up until two days ago when my Workbench kicked up an error requester displaying the following:

$$
\begin{aligned}
& \text { Error validating Vorkbench } \\
& \text { Block } 161423 \text { used twice }
\end{aligned}
$$

The hard drive continues to whir for about another two minutes before stopping. I really don't know what has happened but fear I may have broken the hard drive. Is there anything I can do?

P White, Cambridge

$C_{2}$
I'm glad you are enjoying working with your Amiga and you needn't worry too much about the problem you have described as it is not permanent - provided you have the right software to correct it.
The program you really want is Quarterback Tools Deluxe from Central Coast Software. The is an incredible piece of software and has all the functions you will ever need in order to keep your hard drive healthy and functioning.

|  |  |  |
| :---: | :---: | :---: |
| 4-7\% Analyze and Repair Votune |  |  |
| [ + [ Recover Lost/Deleted Files |  |  |
| $\mid \mathrm{L} 2+5$ \# ${ }^{\text {a }}$ Optinize Volume |  |  |
| Ctis? Edit Volune |  |  |
| Available: $\times$ Yolumes - Devices |  |  |
| Data Horkbench |  |  |
|  |  |  |

If you want more information on QTD you can call Meridian Distribution on 0815433500 who will only be too happy to help you. To avoid further problems such as validation errors, make sure when you are copying stuff to and from your hard drive that copying has finished before you eject the disk - the F.Disk light will go out when this has happened
Keop your hard drive and floppy disk healthy with Quarterback Tools Deluxe

## Install incidents

$3]$I have an Amiga 1200 with a 4 Mb RAM expansion, maths co-processor and 185 Mb hard drive. I have successfully installed Heimdall 2 AGA onto a partition named DH 2 .
The game loads onto the first screen but when I move through to the next room I get the following message:

$$
\begin{aligned}
& \text { Unable to load the file: } \text { DH2: } \\
& \text { Heindal } 12 / \mathrm{vor}(\mathrm{~d} / \mathrm{sid} 1 . \mathrm{dat} \text {. }
\end{aligned}
$$

After this the screen goes blank and I get a guru message:

## 80000003 00280df0

Incidentally, I have checked with Directory Opus and the file in question has been installed.

A Bernascone, West Sussex


To test this problem I installed Heimdall 2 AGA on my own A1200 and although it crashed my Amiga after installation the game played okay. The problem you describe

## Yet another mised bag of

 camputer warries comes under the surgeons knife in time for a speedy recouery
could be a clash with your maths coprocessor and it may be wise removing this and trying the game again.
However, I find the AmigaDOS error report a little strange. Try checking the size of the mid1. dat file which should be 225056 bytes.

If all else fails your best bet is to send

## Blite bliteps outh

3I noticed in the CoverDisk pages of a previous issue of Amiga Computing you were asking people if they could send in their votes as to whether a Blitz Basic 2 tutorial would be welcome. I have already sent my vote - yes!

I have had quite a few problems with Blitz and constantly find myself coming up against problems I can't seem to get round. The most frustrating problem at the moment is when combining old gadgets with the new GadTools. They seem to work fine at first but crash soon after.

The manual says you can combine the two together, so I can't be sure if this is an error in Blitz or a mistake being made by myself. If there's anyone who can help it would be greatly appreciated.

D Lavans, Comwall


Do you want the good news or the bad news first? The good news is that the problem you have described is not a fault of your programming skills. The bad news is that it is a bug in Blitz Basic 2.

This language seems fraught with problems, a sad fact considering it is certainly the best Basic programming language available on the Amiga.
Acid Software are apparently having major problems with the differences between OS 2 and OS 3 and look likely to support only OS 3.0 AGA users in the near future. I'm not entirely convinced of these problems or that they would cause the kind of bugs Blitz users have had to endure.

The GadTools stuff was a major cock-up and there are quite a few bugs in this library as well as in other areas of Blitz. The only answer to your immediate problem is to avoid combining old
gadgets and the GadTools in the same window. This means you won't be able to use ShapeGadgets either.

Sorry I can't be more helpful, but only Acid Software can clear up the bugs which doesn't seem very likely at present.


## Installation frustration

2)I have just finished writing a small program that allows users of Workbench 2 and above to select a find option in the Tools menu.
The user selects the find menu option and a requester appears asking for a file to locate. The user types in the file name, selects the device and clicks okay, at which point the program searches for a file with the same name as the one entered.
The program works perfectly and I want to release it into PD with an option to register for a newer version.

The program and necessary files are now on an auto-booting disk but I am considering a hard drive installer program so that hard drive users can copy the program with the minimal amount of fuss.
I would really like to use the official Commodore installer but don't know where I can get it and how I should use it. Please could you shed some light on this program.

J Dorin, Berks


The Commodore installer is a wonderful program but is fairly difficult to learn how to use. The actual program is called Installer and you can find it easily enough in the C directory of our CoverDisks.
However, before you can use the program you must write a script file using the dedicated Installer language. This language is not easy to learn and is certainly not easy to debug, as it relies heavily on the use of parenthesis ().
Before you use the Installer you are requested to register with Commodore who will license you to use the product. We had to do this at Amiga Computing although we never received a reply. With the problems Commodore are having at the moment I would imagine no one would pick you up for using it without a license.
The best way to learn the language, if you haven't got a manual, is to hack through other developer's Installer script files. You


Installing programs couldn't be easier using the official Commodore Installer but learning the language Isn't easy
should be able to produce a fairly competent hard drive installer simply by editing their scripts.

I may even consider running a tutorial explaining the Installer language so that readers can become proficient with it in its entirety. I hope this has been of some help.

## $>$

your disks back to Core Design who will send you a new set. You can then re-install Heimdall 2 and see if the problem you describe re-occurs. If it does happen again write in and I will call Core Design to see if they can shed any light on the problem.

## Surf defector

$(2)$I know this letter should really have been addressed to Ezra Surf but I am desperate for someone to help with a problem - bugged Amiga games.

I eagerly awaited the release of Beneath a Steel Sky from Virgin and as soon as it hit the store shelves I rushed out and bought it. Imagine my horror when I realised it crashes every five minutes. This game is rendered totally useless to me due to the constant crashing.

I know I can save the game, but by the time I have switched my A1200HD off and then on again, booted the hard drive, located the BASK drawer and loaded the program my enthusiasm is severely dented, especially as I know it will crash in another five minutes.

I also have Brian the Lion AGA which I have installed on my hard drive after much frustration, but when I load it there is no Brian graphic - he's gone.

I have hardly touched this game and feel very cheated by gangster software houses.

I am desperate for a solution to these problems. The software houses fobbed me off with a load of pre-written crap so I am writing to you to see if you have any ideas.

KLeemer, Cardiff


I'm sorry you have had such a poor response from Virgin and Psygnosis but I'm not really surprised. It surprises me that so little was

mentioned about the bugs in Beneath a Steel Sky because on an A1200 the game is a total waste of time and money. The problem you described is the same problem I had with my copy and indeed the System copy.

I'm afraid there isn't a solution, but in my opinion I would be more wary of Virgin products in the future.

I do have some good news regarding

Brian the Lion though. Only a few days ago a Mr Tim Hart sent me a disk on which he and his unemployed programmer friend (maybe he should be writing the games) had written a patch for the missing Brian sprite.

Tim states that the problem is due to Fast Ram which proves that Psygnosis simply couldn't be bothered to test this product.

If you send a disk to ACAS marked Brian Fix, with Tim's permission I will send you a copy. My advice is, be wary of Psygnosis products as well as Virgin.

## Arm yourself:

(3)A friend of mine recently lost a lot of software due to a virus that infected his disks and damaged them. He managed to get hold of Virus Checker on your CoverDisk and subsequently destroyed all the viruses he could at the expense of many commercial games.

He can't understand how the virus infected his disks because he always keeps them write protected. Can a virus infect a write protected disk?

M McCauley, Glasgow

(2)There are only a few viruses I know that will write themselves to a copy protected disk. However, there are no viruses that can attach to a write protected disk, therefore your friend can't have protected all his disks.

I can't stress how important it is for Amiga owners to arm themselves with a suitable Virus Checker - John Veldthuis' being the most up-todate checker there is.

There are fewer viruses being written these days due to the excellent virus killer programs, but
there are still a lot of ancient disks floating around and these may contain viruses. You have been warned - arm yourself!


[^3]
## CITIZEN DOT MATRIX \& ? INKJET PRINTERS 24 PIN ONLY, 4, VATH

 FREE! FROM SILICA
## - DELIVERY

- DELDEAY Ampore in the UK mainturd

- 2 YEAR WARRANTY - HELPLINE - PRINTER KIT wethc

| FREEI PRINTER KIT WORTH $557.58 \%$ <br> PRINTER KIT CIIFS <br> CIHIZSN <br> प्रूपन <br> and <br> 5 |  |
| :---: | :---: |
| FREE PRINTER KIT INCLUDES: <br> - JVe Dist witit Amiga Privt Manager <br> - JIP Disk wilh Widows 3.1 Driver <br> - 1.8 Metre Parallel Printer Cadie <br> - 200 Shests of Contimugus Paper <br> - 50 Contimsuss Fractor Feed Adtenss Latels <br> - 50 Continucos Trastor Feed Disk Labols |  |
|  |  |



## INKJET

- Citizen Projet 11
inkjet - 80 columa
- 180cps Draft (10cpi)
- 120cps NLQ (10cpi
- 50 Nozzle Head

Quiet 46dB(A)

- 50K Printer Buffer
- $1 \times$ IC Card Slot for

Font Upgrades

- 3 Fonts Built-in
- Optional HP

Compatible Font
Cards

- Parallel Interface
- Graphics Resolutio $300 \times 300 \mathrm{dpi}$
- HP Deskjet Plus
- Low Runnino Coss

Ink Cartridge Only Can Be Replaced

- Auto Sheet Feeder (70 Sheets)
- Flexible Paper Handling - Standard Paper, Envelopes \& Overhead Transo.
- Includes Window
- 2 Year Warranty



## PROJET II



24 FIn FAST DOT MATRIX $\mathbf{3 0 0}$ cps 80 column

- Citizen Swift 240/240 24 pin - 80 column - 300cps SD (15cpi), 24 cps Draft, 80cps LO
- Bk Printer Buffer
$40 K$ maximum
- 9 LO Fonts +2 Scalable Fonts (8-40pts)
- Font Cartridge Slot for plug in 'style' fonts
- Parallel Interface
- Graphics Resolution
$360 \times 360 \mathrm{dpi}$
- Epson, IBM, NEC P20 \& CEL Emulations
- Quarter Printing Facility
- Auto Set Facility

Bi-directional Interface, Auto Emulation Detection

- Ulitra Quiet Mode

43वB(A)

- Colour Printing Standard - Swift 240 c Optional - Swift 240
- frREE Silica Printer Kit




## THE SILICA SERVICE

 Betore you decide whento buy your new priter, we suggsst you tink very cartuly about WMERE you buy it. Consider what if wil
be ine a low morths be uno a low morths ather you you may regire actritions peripherais and accoessories or heb and adrice And, wil the company you buy trom or hep and ascice Add, wil be company y ou buy trom
ompeat you nitit detats of new pootucts? At Sice. we ensure that you will have nothing to worry about. We our untralled experience and expense, we can meet our customers' requirements with an undorstanding which is second to none. Cornditeto and rutum the coupon now lor our hisest FPEE literature and begin to experincen the "Sica Sonico"

- PREF overmagt pelvery

- technical support helplame
- ppice marce

Wh carch csampatioss on a "Samt prosuct-Sare price

- establushed is years: PART OF SA sam A YEAR COMPANY - Qusiness a EDUCATON * GOVERMMENT.
- SHOWMOOMS: Wilam luothes at at sur soves.
- THE Full stock punae al or wout compite requirements are aralable trom one
- faee catalogues:
 parment



MaIL (0) 1 Di plus technical (0): $-50 \% 1111$ ?

## 

BPISTOL PLUS BRANCHES AT: 0272291021
 CHELMSFORD Dimbirs 024397511

 GUILDFORD DAbentans-Saftaz Milibosk 0483301300 HULL Debertans-borfun. Proposifitiet 048225151 IPSWICH Detbertans- Cos Aut, Westryle Siver 0473221313 LONDON 52 ToctentanCounh Rasd $071-5804000$ LONOON Ot entans-by haen 334 OrdatSt 071-493 3735
 LUTON Dibentans-IEfool Amsth Cartre 058221201 MANCHESTER Ditentans-ar haen Narat Sreet 061-832 8656 PLYMOUTH Datentans-OA fand Aopal Prase 0752266666 SHEFFIELD Detentans Dashul. The Mbor 0742768611 SIDCUP $\quad 1-4$ The Mens, Hatheriey Hoat $081-3028811$

 ThURROCX Detentans- lle fiel Liseside Catres 0708860066

Mr/Mrs/Miss/Ms Initials:

Company it Icctate
Address

Tel (Home):
Tel (Work):
Which computer(s), it any, do you own?

Subscribing to Amiga Computing means you reap all the benefits of the exclusive treatment you'll receive as a subscriber, and you get to choose one of these great free gifts as well


So, you're wondering, what exactly is this exclusive treatment? It's a whole range of things that ensure you get your copy of Amiga Computing without any fuss or effort. As a subscriber there are no worries about remembering when the next issue is on sale. You can watch your favourite soap or have a lie in, because you won't be scrambling down to the newsagents. You'll be content in the knowledge that you are part of the select, because your copy of

Amiga Computing is reserved for you personally. Before the masses have even thought about their monthly expedition to the shops you'll have had your copy for a few days, delivered direct to your door, postage free.
Not only do you already know the latest news and gossip, but you've also had first pick of the bargains on offer. Subscribing by direct debit means you save money and get an extra issue each year.

## SUBSLRIPTIII DRIER FIRII

Choose either a 12 issue or a quarterly subscription, which will start from the earliest possible issue

- I would like the following $\mathbf{1 2}$ issue subscription: New Renewal

| $\square 9642$ | $\square 9643$ | UK Subscription | $£ 39.95$ |
| :--- | :--- | :--- | :--- |
| $\square 9644$ | $\square 9645$ | EU Subscription | $£ 54.95$ |
| $\square 9646$ | $\square 9647$ | Rest of World Subscription | $£ 74.95$ |
| $\square$ | $\square$ | Canada/USA * | $\$ 98$ |

- I wish to pay by:
$\square$ Cheque/Eurocheque/Postal Order payable to Europress Publications Ltd
$\square$ Credit Card (vise/Accosss/BarclaycardMastierardUEurocardiConnect Expiny Date
Card No
- Tick which free gift/special offer you want (not available to world subscribers)

9576 Two free issues and a magazine binder
9584 Alpha Data Mega Mouse and Logic 3 mouse mat
$9587 \square$ Zool II - all machines
9587 Zool II - A1200 enhanced version
$9586 \square$ Mastering Amiga beginners (Add $£ 3.95$ to the cost of your subscription)
9589 Amiga Disks \& Drives Insider Guide*
9590 Amiga A to Z of Workbench 3 Insider Guide*
$9591 \square$ Amiga Assembler Insider Guide* (Add £1 to the cost of your subscription) It you are paying by direct debit please pay additional amounts by cheque or credit card.

* Canada \& USA subscribers send to: Europress (North America), Unit 14, Bysham Drive, Woodstock, Ontario, NT4 1P1, Canada. Tel: 519-539-0200, Fax. 519-539-9725
ITck this boxity you do not wish to receeve promotional materal fom ather companies
- I would like a UK quarterly direct debit ongoing subscription $9648 \quad \square £ 8.49$ per quarter (Complete the form below)


## Quarterly Direct Debit Instruction

authority to your bank/building society to pay direct debits
Name of bankitulding woity ........| Your instructions to the bank/buiding society:


Address.
Address.
$\qquad$
Name of account

Your account no. \begin{tabular}{|l|l|l|l|l|l|l|l}
\hline \& \& \& \& \& \& <br>
\hline

 Sort code $\square \square \square \square \square \square \square \square$ Signature(s) ...... Date... FOR OFFICE USE ONLY 

Originator's Identification No . \& |  | 5 | 1 | 4 | 1 | 2 |
| :--- | :--- | :--- | :--- | :--- | :--- | $\mathbf{l}$ <br>

\hline
\end{tabular} Ref No.

- I instruct you to pay Direct Debits from my account at the request of Europress Ltd.
- The amounts are variable and may be debited on various dates.
- No acknowledgement required.
-I understand that Europress may change the amounts and dates only after giving me prior notice.
- I will inform the bank/building society in writing i I wish to cancel this instruction.
- I understand that If any Direct Debit is paid which breaks the terms of the instruction, the bank/ building society will make a refund. Bank/building society may decline to accept instructions to pay Drect Debit from some types of accounts.


## - Deliver my magazine to:

Name (Mr/Mrs/Miss/Ms)
Address

Postcode $\quad$ Daytime phone no

# guide for Lulr Amigut <br> <br> Taトse nut $]$ suhscrintin！ <br> <br> Taトse nut $]$ suhscrintin！ ■ார indயl토 4ロルケज피F！ 

## Chamse one of these free gifts or special affers

## Iwロ ehtra issues plus an elegant Amiga ［omputing magazine binder



Subscribe to Amiga Computing and we＇ll send you a high qual－ ity，exclusive Amiga Computing magazine binder．These specially produced binders will keep your magazines in mint condition， providing an excellent reference point，as well as keeping them stored away neatly．As well as this useful binder you also get two extra magazines．Your 12 issue order is extended up to 14 issues， at no extra cost，so you get 14 fact－packed issues for the price of only 12.

## Alpha Data Mlega mouse and logic $\exists$ mouse

The well known Alpha Data Mega Mouse has ultra high 260 dpi resolution with opto－ mechanical encoder．The reliable micro－switch buttons provide effortless finger－tip operation． You can have all this and a high quality logic 3 mouse mat absolutely free when you sub－ scribe．



## Boolss for Amiga users

Choose one of these truly useful －b

Amiga 8 to 2 of
Workbench 3 Insider Guide Suitable for Amiga A1200 or A4000 owners，this guide describes everyday usage of the Workbench in step－by－step terms．



This is the book to pro－ vide you with a solid grounding，through easy to understand step－by－ step instructions and explanations of terminol－ ogy．This superb book covers the A1200，A600， Workbench familiarity－ just about everything．

> The lusider culldes nor－ The thsicet curces nor－
mally retail at 814,95 ．Add E1 onto the cost of your subscription and any one could be yours．

## －दoal 2

This widely acclaimed game follows Zool＇s trav－ els through a further six huge levels，larger than those in the original，that feature a number of different ways of completion．
Zool has new and special abilities，including expert climbing skills and is now accompanied by his pet dog； Zoon．With great sound effects，hidden bonus rooms，highly intelligent enemies and the choice to play Zooz，Zool＇s giri－ friend（shown here），Zool 2 makes an excellent free gift．
Zool 2 is suitable for any machine， though A1200 owners can choose an enhanced version（see order form）．

$\rightarrow+\infty$oft-Logik's PageStream has come a long way. The desktop publishing program that started life as a buggy port of an Atari ST program at version 1.5 , eventually grew into version 2.22, a strong competitor for then-marketleader Professional Page.
But Soft-Logik wasn't content to try to be the best on the Amiga - no, they seem to want to be the best on any computer.

The forthcoming release, PageStream 3.0 , isn't targeted at the stagnant Professional Page. No, Soft-Logik has its sights aimed at Quark XPress, the industry standard desktop publishing program that runs on the Macintosh and Windows.

That's a lofty goal for a small, Amiga-only company to set for itself. But if the beta versions of PageStream 3.0 I've been working with for the past few months are any indication, the full-blown program will give Amiga users a tool that will make their Mac- and Windows-using publishing friends green with envy.

PageStream 3.0 has been delayed quite a bit from its initial release - I first heard talk of the program at the World of Commodore Show in 1992.

As this was written in early July, SoftLogik promised they would ship the program in early August, so it should be available by the time you read this.

The initial release will be feature packed for sure, but the company isn't going to stop there. As if a completely revamped interface and hundreds of new features wasn't enough, Soft-Logik has some more ideas

## Hep and more

PageStream 3.0.0 includes a comprehensive help system that uses Commodore's AmigaGuide to provide context-sensitive hypertext explanations of various commands.

Everything's there, from basic operation to full ARexx command documentation. There's also an introductory tour sequence, and a window that pops up when you load the program and offers various tips on using PageStream's features.

There are a number of other features in this totally rewritten program that are new to PageStream and unique to any Amiga desktop publishing program.
These include revision control numbering, timed saves that don't interrupt your work, automatic backups, undo and redo limited only by available memory (another feature that by itself is worth the price of admission), dot leaders, object nudging, and full support of the Amiga's clipboard.

## The great

on how to improve the program and promi ses a free update with even more features a few months after the initial release.

At first glance, long-time PageStream users might not recognize the new version. The familiar floating toolbar is still there, as is the page layout window.

But there's also a Quark XPress-like con-text-sensitive edit palette at the bottom of the screen, a row of control gadgets at the top of each editing window, and optional colour, font, style, macro, and page selection palettes.

## GADGETS

Three-dimensional effects on the page outline and surrounding moveable rulers help set them off on the screen, and Amiga User-Interface Style Guide-compliant gadgets and windows make the program easier for new users to pick up.

The edit palette should help make you much more productive. It's context-sensitive and its functions change to fit the tool you've currently selected.

For instance, if you select the oval drawing tool, the palette displays the $X$ and $Y$ coordinates of the centre of the oval, as well as the width and height of the object.

Shift to the text tool and the palette presents you with gadgets for altering the current font, style tag, text attributes, size, width percentage, tracking and leading.

In addition, a toolbar at the top of each editing window lets you perform documentoriented commands such as Go To Page, Change Magnification, Undo, Redo, and clipboard operations.

No more hunting through the menus for commonly used functions - now they're usually only a mouse-click away.

One of PageStream's best features has


View your page layout in thumbnails to see how they fit together
always been the ability to have multiple documents open simultaneously, each in their own window. In release 3.0, you can also open multiple windows on a single document.

This comes in handy in a number of ways: If you need to move an article from page three to page 50, for example; or if you want to view a thumbnail of the current page at 33 percent magnification while you edit details at 200 percent zoom.

When you're not working on a window but you plan to use it later, just hold down the Alt key and click the close gadget - it automatically iconifies into a title-bar sized window that won't get in your way.

The view inside those windows looks a lot better, too. PageStream now displays bitmap graphics in full colour, instead of as a muddy black-and-white outline. Graphics display in up to 256 colours if you have an AGA Amiga or a graphics card.

You can open PageStream in any screen mode supported by your Amiga, including resolutions added by graphics cards such as the Picasso II or EGS Spectrum; the boards just have to add their resolutions to the standard AmigaDOS ScreenModes


A complete in-buift guide is provided for ease of use


Define a new document to your exact requirements


Imported graphics may be resized, scaled and changed

## diuide



PageStream 3.0 has taken a long time to arrive...
requester list. (You can also run PageStream on the Workbench or any other Public screen.) The program looks fantastic on a $1280 \times 1024 \times 256$ Picasso screen on a 17 -inch monitor.
In addition to supporting higher resolutions, PageStream 3.0 also supports opening screens larger than the current display, so you can work on large pages using the Amiga's ultra-speedy screen scrolling to move around quickly.

## VEIWING

If your page is larger than the current window, holding down the right Amiga key and pressing the left mouse button turns the pointer into a hand that you can use to drag the window around until you're viewing the part you want to work on. (If you have a three-button mouse, you can use the middle mouse button to do this.)
In earlier versions of PageStream (and all the other Amiga publishing programs), you treated your entire document as a series of pages.

This was fine for short publications that shared similar formats, but made long documents that varied in format a pain to

...but the wait has been worth it
create - you spent much of your time just redesigning various pages.

PageStream 3.0 lets you divide your documents into chapters, and those chapters into subchapters. You can have different format defaults at the document, chapter, and subchapter levels.
PageStream 3.0's master pages feature lets you create basic page layouts - with objects like page numbers, headers, and repeating graphics - and have those layouts automatically repeat for all pages that use that particular master page.

Automatic table of contents and index generation macros further bring PageStream into the realm of professional publishing.
Even little details like page numbering are surprisingly powerful now. You can set the page numbering system at the document level, as well as whenever you insert a new page.
Chapters can be numbered, you can define chapter lengths, whether you want chapters to begin on odd or even pages and can insert the actual page count as well - which isn't always the same as the page number.

If you're creating a magazine or newsletter, you'll appreciate the ability to view page spreads. Just drag two pages together in the page palette window.

You can not only view the facing pages but also bleed objects across the pages. Both horizontal and vertical spreads are supported.

As I mentioned earlier, PageStream 3.0 now supports display of both bitmap and structured graphics in up to 256 colours. Like earlier versions, PageStream 3.0 imports a wide variety of graphic formats, including BMP, EPS, GIF, IFF, MacPaint, PCX, Professional Draw, and TIFF.

New to this version is the ability to export graphics as well. You could import a GIF picture into your document and save it out in PCX format.
When placing bitmapped graphics on the page, you can tell PageStream to ignore the background, allowing you to automatically flow text around irregularly shaped bitmapped pictures.
Some Encapsulated PostScript (EPS) images have preview images encoded in


## 



Elements are user definable -


A variety of different graphic formats can be used from Tiff to PCX. Shame there's no Jpeg

...to tab eontrol...

..to paragraph layouts

## Under construction

This preview was based on a late beta-test version of the program, so there's always the chance that some features could change at the last minute and new features might be added before the program ships.

The manual was in the final editing stages when we went to press; Soft-Logik promises it'll be the best manual they've done yet, with five tutorials, thorough topic coverage, and a complete index.
We'll take a hands-on look at the manual and the other features included in the shipping version of PageStream 3.0 in an upcoming issue of Amiga Computing.
$>$
them in TIFF (PC) or PICT (Mac) formats PageStream can display both of these preview formats.

Unlike most programs, PageStream not only lets you display, resize, and crop graphics, but edit them as well.

Outline graphics formats can be altered using the built-in drawing tools; bitmaps are sent using the built-in HotLinks protocol to the bundled BME graphics editor.

BME is greatly improved over the initial release which was part of the now-included HotLinks Editions package. The new version supports colour display, has sophisticated ARexx capabilities, and does a great job automatically tracing bitmapped images and saving them in outline formats.

The beta version I tested didn't indicate


PageStream offers a wide range of printer drivers


any plans to add support for JPEG graphic import and export, which is the only serious omission in PageStream's graphic support.
If you're going to be creating professional colour output, you'll appreciate PageStream's support for PANTONE process and solid colours.

## SUPPORT

You can specify the angle and frequency for individual pictures and for each plate. PageStream supports user-definable trapping (spreads and chokes) for objects, and you can choose whether to overprint or knockout a particular ink.

PageStream supports Preferences printers, but includes custom drivers for HewlettPackard, Epson, Canon, and PostScript printers for better results.
Dozens of PostScript Printer Description (PPD) files are included, so PageStream can take full advantage of your printer or
imagesetter's capabilities
Industry-standard PPD files are used so if you purchase a new model printer you can use the PPD file included for use on a PC or Macintosh. You can also output your pages as EPS files or bitmap graphics.

Along with the ability to load and convert PageStream 1 and 2 documents, PageStream 3.0 also supports loading documents in Professional Page 3 and 4 formats.

Gold Disk has suspended development of Amiga products, so Soft-Logik wanted to offer ProPage users the option to upgrade to a still-supported program, without losing access to all their old documents. To aid in the transition, PageStream 3.0 includes an AmigaGuide help document that lists Professional Page commands and their PageStream equivalents.

PageStream 3.0 supports the original custom PageStream font format, as well as Compugraphic and PostScript Type 1 font formats.

Unlike Professional Page, there's no practical limit to the size of fonts you can use in your documents. (PageStream's size limit for Compugraphic fonts is 50,000 points - that's 57 feet tall!)

Along with the usual text styles such as bold, underline, and italic, PageStream also supports generation of small caps and reversed text.

A particularly neat addition to version 3.0 is configurable styles. You can change the colour, thickness, and style of an underline, for instance.

Text characteristics are configurable as well. If you want to create a garish headline font with a three-point-thick outline and an orange-red gradient fill, PageStream will let you do it. PageStream 3.0 should ship with approximately 50 fonts.

Widow and orphan control lets you keep paragraphs from being split across columns, or make sure that a certain number of lines at the beginning or end of a paragraph are kept together.

Conditional breaks protect a section of text from being broken across two columns. This is useful for keeping headlines from being separated from their articles.

Various character-level improvements can make your text look a lot better. You can enable automatic ligatures, which can merge characters to create smoother-looking combinations.

PageStream 3.0 can convert dashes and inchmark quotes into en- and em-dashes and smart quotes automatically when you import text.

PageStream supports placing text in defined frames on the screen, but it also lets you type freeform on the page. Frames can now contain more than one column of text. This makes changing page layouts much easier if you discover you need to increase or decrease the number of columns on a page.

Just select the frame and change the columns setting - this is a lot easier than redrawing column guides on the screen and relinking and reflowing text boxes.

Also, if you resize a frame, the columns
contained within are resized as well. Frames don't have to be boxes, either - PageStream lets you draw any shape using its drawing tools and flow text into it.
When you're editing large amounts of text you'll appreciate the fact that Soft-Logik is now bundling the PageLiner text editor with PageStream. It won't replace your word processor, but it beats trying to edit on the page layout screen.

The initial release of PageStream 3.0 will import text from most popular Amiga word processors, including Final Writer, WordWorth, WordPerfect, and ProWrite.

Although the formats may not be included at initial release, Soft-Logik hopes to add support for popular PC word processor formats such as WordPerfect 6.0 and Word for Windows.

This will make life easier for newsletter editors whose authors send in their work on PC disks. The word processor filters now support both reading and writing, so you'll be able to use PageStream, for example, to convert text from WordPerfect to Final Writer format.




OPEN 7 DAYS A WEEK
OPEN MON-SAT........9.30AM-5.30PM SUNDAY OPENING..11.00AM-3.00PM WEDNESDAY \& THURSDAY
Late Night Opening.......9.30AM-7.30PM OPEN HALF DAY MOST BANK HOLIDAYS

## TELEPHONE LEEDS

 24 HOUR MAIL ORDER SERVICE0532319444 IOLINES! FAX: 0.53231991
SHOWROOM ADDRESS DEPT. AC, UNIT 3, ARMLEY PARK COURT, OFF CECIL ST, StANNINGLEY RD, LEEDS, LSI 2 2AE

HOW TOORDER
Order by telephone quoting your credit card. Please make cheques payable to the: "FIRST COMPUTER CENTRE,"
In any correspondence please quote a phone number $\&$ post code. Do not forget to include the delivery tariff \& Dept. code. Allow 5 working days for cheque clearance.

- All prices include VAT @ $17.5 \%$
-Large showroom with free parking -Overseas orders taken subject to status - Educational orders welcome - Established Multi million pound company


## UK MAINLAND

 DELIVERY TARIFFS - Standard Delivery........................ 1.50 - Guaranteed 2 to 3 day (week days) Delivery.......................................62.95 - Guaranteed Next Day (week days) Delivery..First Comm Bulletin Board Why not place your orders on our new bulletin board. First comm is not just a means of ordering, it


Tel. 0532311422


## F\|RSTcomputer centre (LEEDS)Tel:0532319444

## CD ROM Drives

AI 200 OVERDRIVE CD-ROM

## PRINTERS

All our printers are UK spec, come with ribbon/toner, printer drivers (if available), paper \& cables!!

## Canon

Canon BJI Osx..............
Canon BJ200.
6181.99 6231.99

3 page a min speed, 360 dpi, small footprint $\& 80$ page sheetieeder
Canon $B J 230$.
.
. 2114.99
wide carriage version of above
. 2419.99
Canon BJ300.
$€ 499.99$
Destotop bubble jet with laser quality
Canon BJ330..................
Wide carriage version ot the B3
.6532 .99
new bubble jet from Canon
B\|10 Autosheetfeede
. 49,99

## NEWLOW

## CITIZEN

Citizen printers have a 2 year guarantee

## AMIGA REPAIR CENTRE

We offer a FREE quotation on your Amiga or any peripheral (monitors, printers etc). A delivery tariff of just $\mathbf{E 5 . 0 0}$ is charged or alternatively you can visit our showroom. We can also arrange a courier pickup at an additional cost of $\mathbb{\ell 1} 1.00$.

AMIGA 500 Plus trade in offer When you spend $[3000.00$ or more with us you can trade in an Amiga 500 Plus for $\& 100.00$. Your old Amiga must be in working order complete with PSU and modulator. The AMIGA A I 200
AI 200 Standard pack only 6269.99 Computer Combat pack only 6329.99 RACE \& CHASE pack only $\mathbf{6 2 8 9 . 9 9 !}$

## HARD DRIVE VERSIONS STD pack R\&C pack $64 \mathrm{Mb} . . . . . . . . . .6414 .99 \ldots \ldots . . . . . . . . .6439 .99$ $85 \mathrm{Mb} . . . . . . . . . . . .4429 .99 . . . . . . . . . . . . . . . ~ C 489.99$ $127 \mathrm{Mb} . . . . . . . . .6474 .99 . . . . . . . . . . . . . . . ~$ 6519.99 $250 \mathrm{Mb} . . . . . . .6569 .99 . . . . . . . . . . ~$ 589.99 Add 660.00 to the STD pack price for the Combat Hard Drive packs <br> THE CHAOS PACK! -CHAOS ENGINE - NICK FALDO CHAMPIO <br> -SYNDICATE <br> only $£ 29.99$ or $£ 19.99$ <br> THE FIRST 5 GAME PACK GRIANLION OLOL OENNIS OSEAR -total carnage only $\mathcal{E 1 9 . 9 9}$

The AMIGA 4000
A4000/030,80MbHD....................... 1039.9
A4000/030,80 MbHD......
A4000/40
A4000/040LC, $120 \mathrm{MbHD}{ }^{\circ}$
A $4000 / 040 \mathrm{~L}$ C, 214 MbHD
A4000/40 SCSI Tower systems EPOA
All the above examples come with 6 Mb of RAM as Standars
"The hard drive only is not covered by on site warranty

A600 \& 1 200's 2.5" HD kits
$60 \mathrm{Mb} . . .{ }^{*}$ * $£ 134.99120 \mathrm{Mb}$..." * . 199.99 NEWL 60Mb....* $£ 134.99120 \mathrm{Mb} . .{ }^{*} £ 199.99$
$80 \mathrm{Mb} . . .{ }^{*} \in 159.99250 \mathrm{Mb} . .{ }^{*} £ 309.99$
$3.5^{\circ \prime}$ H/drive upgrade kitno HD only $£ 22.99$ PRIMA AI 200 REAL TIME CLOCK

SupraFAKModem 288
NEW Superfast! 28,800 bps $+14,400$ Fas
Phone for more edealis only $£ 243.99$
SupraFAM(Modem' I44LC
V. 32 bis ( 14400 baud!)

Low cost verion of the classic V32Bis Fax modem.
Features as below but class 1 fax only and LED display
only $\mathrm{E1} 41.99$
SupraF/童Modemiv. 22 bis
This modem has full 14400 baud. includes V.32biss
V.32, V.22bis, V22, V21, MNP 2.5, V.42, V42biss
Class $1 \& 2$ commands, $9600 / 4400$ Group 3 Fax Includes free modem comms (not Fax)siw \& cable only $£ 178.99$
SupraFFAY 'Plus....... 6112.99 Even faster than the standard 2400 from Supra with auto dial $\frac{8}{}$ auto recelve. 9600 bps Hayes comp.



Suparer 2400.
658.99

Get on line using this great value fast modem with
auto dial \& receive, 2400 baud Hayes comp, V22 auto dial \& receive. 2400 baud Hayes comp,
BIS. Includes free modem comms s/w \& cable!!
Supra modems are not BABT approved, however they erform as well \& often out periorm BABT approve modems. Supra Modems have a 5 year limited warrant;


WE ARE PREFERRED USR DEALERS
NEW LOW PRICES!
Sportster 2496 +Fax $\qquad$ . 104.99
Sportster 14400 Fax................ 151.99 WorldPort $14400+$ Fax.............. $£ 251.99$ WorldPort 2496 + Fax ........... 181.99 Courier Dual Std V.Fastclass (linix Cowe) $£ 369.99$ If you thought V32bis was fast tor the terbot They
come with a 5 year warranty \& ore BABT Approved।

## MONITORS

All our monitors are UK spec. Allmonitors come complete with a free Amiga lead*

NEW!
AKF40
only $£ 249.99$
Stereo, colour monito
with same spec to the
old Philips 8833 and Commodore 1084s.
Includes FREE built in tilt and swivell stand.
NEW! Microvitec Autoscan 1438 .28 dpi , $15 / 38 \mathrm{kHz}$, all Amiga modes, AGA comp. no audio, tilt \& swivell stand. now only $£ \mathbf{2 8 9 . 9 9}$
${ }^{*}$ Free cable for A4000 only A1 200 cable 66.99 extra

## PREMIER Ink

## Cartridge Refills

Save a fortune in running costs with your ink
bubble jet. Compatible with the HP500/550, bubble jet. Compatible with the HP500/250
DeskjetPlus, Canon BJIIO/20/80/130/200/300/330 Star SJ48, Citizen Projet and many others. Ful range of colours avaliable.
Single refills ( 22 ml )
Thin refills ( 44 mi ) 66 ml )
Full colour kit (88ml).
Bulkrefills ( 125 ml ) Cartidges
Canon BJ10 cartridge.
Double life 500 cartridges
HP550/500 Colour cartridge
Star SJ48 cartridge..............
Star S 1444 cartridge (pack of
Star S) 144 cartridge (pack of3) 642.9
Star S J 144 mono cartridges (3 pack) ... 121.99
Star Sj144 colour cartridges (3 pack)..E21.99
Miscellaneous
Printer Switeh Box 2 way
Printer Switch Box 3 way
Printer Stands (Universal)
${ }_{5}$ Metre printer cabie
5Metre printer cable.
10 metre printer cable.
hama 290 674.99
S.hama A-CUT Video Editor

## f185.99 NZW: <br> GVP Genlock <br> nly E 204.9

1 meg external drive. The best nar
A $600 / 1200$ internal drive

| 63.99 |
| :--- |

A500 internal drive.
¢49.99
A4000 internal HD
699.99

## GENLOCKS

Wh [icce
hama ONDEMONOW!
The Professional answer
hama 292.
f269.99
674.99

Rocgen Plus.
Includes dual contro
Rendale 8802 FMC...only 6164.99 Rocgen Rockey............only $£ 152.99$ For creating special effects in video
production with senlocke.












PRIMAA500 \& A600 RAM
A500 512kRAM xpansion (no clock).\&19.99 A500 Plus I Mb RAM
xpansion.................. 344.99

|  |  |  |
| :---: | :---: | :---: |
|  |  |  |
|  | 671 |  |
| 50 M | N/ |  |
| 1 mb by $\mathbf{8 / 9}$ SIMMS ( 1 Mb )....... 634.99 4 Mb by 9 SIMMS ( 4 Mb ). $\qquad$ <br> 1 Mb by 4 DRAMS(IMb) $\qquad$ 639.99 <br> 1 Mb by 4 ZIPS(1/2 Mb) $\qquad$ . 22.99 256 by 4 ZIPS $\qquad$ (each) 65.99 256 by 4 DRAM(DILs) $\qquad$ (each) 65.99 DKB 1202 A I 200 RAM board...... $\mathbf{C 8 4 . 9 9}$ <br> takes 232 bit SIMMs. Has an optional FPU. See above for prices <br> Kickstart I.3. $\qquad$ .623 .99 <br> Kickstart 2.04 $\qquad$ . 228.99 <br> Kickstart 2.05 (for use in A600). <br> Fatter Agnes 8372A $\qquad$ C26.99 <br> Super Denise. $\qquad$ 618.99 <br> 6571-0326 Keyboard controller. $£ 13.99$ <br> CIA 8520 A I/O controller. $\qquad$ ¢8.99 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |


| this trapdoor expansion. inc real time clock <br> I MB RAM. $\qquad$ <br> 2 MB RAM. $\qquad$ f134.99 <br> 4 MB RAM. $\qquad$ C198.99 <br> 8 MB RAM $\qquad$ 6394.99 <br> 1 MB \& 20 MHz CO PRO.... $\subset 147.99$ <br> $2 \mathrm{MB} \& 33 \mathrm{MHz}$ CO PRO.... $\subset 198.99$ <br> 4 MB \& 40 MHz CO PRO.... $\mathbf{C 2 9 4 . 9 9}$ <br> $8 \mathrm{MB} \& 40 \mathrm{MHz}$ CO PRO.... 4494.99 <br> FULL 2 YEAR WARRANTY <br> SUPRAA500 RAM |
| :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

## GVP PRODUCTS

Al 200 Products
33Mhz 68882 for A1 200 SC
External SCSI Lit SCSIRAM NEW! AI 230 MK II Accelerator Board

| Speed | RAM | FPU | Cost |
| :---: | :---: | :---: | :---: |
| 40 | 0 | 0 | 6244.99 |
| 40 | 4 | 0 | 2437.99 |
| 40 | 4 | 40 | 53599 |
| 40 | 8 | 0 | 634999 |
| 50 | 0 | 0 | 2369.99 |
| 50 | 4 | 0 | 2564.99 |
| 50 | 4 | 50 | 2664.99 |
| 50 | 8 | 0 | 7759.99 |

Al 500/2000/4000 Products $\mathrm{HC8}+/ 0 \mathrm{Mb}$ drive.
$\mathrm{HC} \$+/ 42 \mathrm{Mb}$ drive
$\mathrm{HC} 8+/ 42 \mathrm{Mb}$ drive.
$\mathrm{HDS}+120 \mathrm{Mb}$ drive
PC286 Emulatorfor HD $8+$ /A530
Hard Drive mo Mhz 4Mb RAM...
Hard Drive mounting kit for G-For

## IMb

4 Mb .
1291
I SCSI Module for A1 200.

## Miscellaneous Hardware

## The Serial Link (Adaptor to link

Panavision SX-1 (CD32/1200 emulator
$\qquad$ 6219.99
$\mathbf{C 6 4 . 9 9}$ DKB MegaChip II ( 2 Mb chip RAM) $\qquad$ C169.99
ROCHAR 2 Mb of chip memory on A $500 /$ A $1500 / 2000$

AMIGA $1200 / 500 / 600$ PSU...... NEW.
AMIGA 500 Modulator_.......
$\qquad$ T89,99
$\qquad$ 10 .664 .99 679.99

















Zydec Trackball.
.f19.99
Aplha Data Trackbail


Zappo 3.5 with 10 FREE disks only 549.99 NEW.
Cumana 3.5"
onlyz 56.99

## ROMBO PRODUCTS

VIDI 12 Real Time $£ 134.99$ Real time colour digitizing from any video VIDI 24 Real Time $£ 223.99$ 24 bit quality real time colour digitizing from
any video source. Full $A G A$ support any video source. Full AGA suppor
VIDI I 2 AGA $£ 64.99$ Full support for AGA chipset. Colour images in coal time with any video tourcee
VIDI 12 Sound \& Vision AGA
with built in MegamixMaster $\mathbf{6 9 8 . 9 9}$ TAKE 2 £35.99
Features include load and save from D. Paint
animations and IFF flee Supar Megamix Master........ $£ 26.99$ 8 bit, high spec. sampler. Special effects include echoaty to use.

## ACCELERATORS

 MICROBOTICS
## MBX 1200 Z with 20 MHx FPU.... <br> ... 889.99

 MBX 1200 Z with 50 MHz FPU expandible to 8 Mb 32 Bit RAM (see RAM prices)New MI 230 for A1 1200 withup to 128 Mb fast RAM!
MI $230 \times$ X $33 \mathrm{Mhx}, 0 \mathrm{Mb}$..
MI $230 \times$ A $40 \mathrm{Mhx}, 0 \mathrm{Mb}$..
M1 $230 \times$ A $50 \mathrm{Mhz}, 0 \mathrm{Mb}$
VXL 3025 Mhz (for A 500 ).
VXL 3040 Mhz (for A500).
$\qquad$
SUPRA 8 ACC
for the A500/A500+\& A $500 / 2000$ 28 Mhz , uses A
internal fitting
only $£ 144.99$ !
PRIMAROMSHARERS
This high quality ROM sharer features a fexible ribbon connection so that it can be positioned
anywhere within your A500 Plus or A600. Full 2 anywhere within your AS00 Plus or A600. Full
year replacement warranty
now only $£ 17.99$ or $£ 24.99$
for keyboard switchable version

## ACCESSORIES

Real Time AI 200 internal clock module...only $C 13.99$ Mouse/joystick manual port switcher.......only $\angle 13.99$ Amiga A $00 / 600$ $\qquad$ Amiga 505 Plis Mothertoand... Amiga 500 Plus Case.................
QUALITY MOUSE MATS...
10 CAPACITY DISK BOX
10 CAPACITY DISK BOX.
40 CAP LOCKABLE DISK BOX
$\qquad$ 100 CAP LOCKABLE DISK BOX. $\qquad$ -90 CAP STACKABLE BANX BOX $\qquad$ *add 01.05 delivery if purchasing jost one Peaso or Banx bas. Nermal delvery when purchased with other prodict or when buring 2 or more,
AMIGA A500 DUST COVER..........................99
$\qquad$

## SOFTWARE <br> BUSINESS

$-\quad .04 .98$

## Miniofice

## MISCELLANEOUS

## Distant Suns $\times \times C A D$ $\times 2000$

## MUSIC/SOUND

Clarity 16 mampler Pro Midil Interface by Microdeal.- $\quad 69$.
Techno Sound Turbo.
PROGRAMMING


| Amos Compiler <br> Amos3D. <br> Amos Professional <br> Amos Professional Compiler <br> Bliz Basic Devpac 3 <br> EasyAMOS <br> SASCVersion 6.5 <br> PUBLIC DOMAIN Top 50 <br> from $£ 1.50$ ! (many more tites available) |  |
| :---: | :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |


sio


## 管



AMIGA 600 COVER.
$14^{-1}$ MONITOR DUSTCOVER. $\qquad$ .66 .99
614.95 AMIGA TO SCART CABLES .- 69.99
STD I.8 METRE AMIGA PRINTER LEAD.... 4.99 MODEM AND NULL MODEM CABLES 19.99

AMIGA CONTROL STATIONS
AS00 or 1200 VERSION.
DISKS
All disks are $100 \%$ error free guaranteed
New High density 3.5 inch bulk and branded Please phone for best prices!

| QTY | Bulk DS/DD | Branded DSIDD |
| ---: | :---: | :---: |
| 10 | $£ 4.49$ | $£ 5.49$ |
| 30 | $£ 12.99$ | $£ 14.99$ |
| 50 | $£ 20.99$ | $£ 22.99$ |
| 100 | $£ 37.99$ | $£ 42.99$ |
| 200 | $£ 69.99$ | $£ 79.99$ |
| 500 | $£ 168.99$ | $£ 190.99$ |
| 1000 | $£ 324.99$ | $£ 365.99$ |

Branded disks come complete with labels
Disk Labels.... 500
Disk Labels.. 1000.
636.99
679.99
....629.99
3
Brillian
Caligan
Delux
Delune
DelureP243D Design and animation-
Deluxe Paint 4 AG
Make Path for Vista
MelconMagic.
Real3DClassi
Real 3D V2..........
Scenary Animator V4 (3Mb regired).-
Video Creator for CD 32
Video Directo
Video Master

## WORD PROCESSING/DTP

$$
\begin{aligned}
& \text { Final Writer DTP. NEWLOWPRICE } \\
& \hline \text { Penpal }
\end{aligned}
$$

$$
\begin{aligned}
& \text { Penpal 1.4._....... } 629.99 \\
& \text { Best selling feature packed word publisher with database } \\
& \text { Pasestream } 2.21 .
\end{aligned}
$$

$$
\begin{aligned}
& \text { Best seling feature packed wort } \\
& \text { Pagestream 2.2 U. .version.. } \\
& \text { Pagestream 3 U.K. version..... }
\end{aligned}
$$

Pagestream 3
Pagesetter 3
ProPage V4 8 .Pr
Protext 4.3 W/P
Prowrite 3.3 NEW
Wordworth 2 A GA incPrint My Special low pricel C29.99
Wordworth 3 NEWI .... LIMITED OFFERI $\quad 664.99$


## that



Ever wanted all the sounds and creating music in your
ond instrument you do. Therefore your first instrument should be a fairly big one like the TG500 because the next purchase will involve having to get a mixer and subsequently will be fairly costly. So the first instrument will need to last a while till you can afford the next stage. 2. If your second instrument has no on-board effects, such as the Proteus 1 or a Roland R8 drum machine, you will also need to buy effects units. Once again you will ideally need to buy a good quality unit first time round, such as a Sony R7 or Yamaha SPX990.

Cheaper units can be very useful but generally handle multiple sound input less well than the bigger units. You can think of it like the CPU in your computer - a 68000 processor can handle a lot less data than


$>$
a 68040 .
3. When you buy a mixer you may only envisage needing six inputs (three stereo inputs) plus two band EQ and maybe two effects sends for that R7 or SPX 990. However most people, when setting up a studio, end up having between three and four instruments and at least two effects units.

In theory the six input mixer seems okay. However, if you have a good drum machine you will want to EQ each sound individually, i.e. cymbols snare, bass drum etc, so you will use the individual outs of the drum machine, which will have up to eight outputs - the same applies to the synths. An example is listed below:

R8 drum machine - elght outputs;
TG500 - six outputs; Korg O5W - two outputs
Total Inputs needed $=16$
So once again we have to plan ahead. This will, at times, make things seem impossible, but if you go in blindfolded you will simply have to sell some of your equipment at a large loss, making the overall plan all the more difficult to achieve.

As mixes get bigger EQ is needed more and more to make different bits stand out against other bits. I recommend a minimum of three band EQ ideally, with mid sweeps (what the hell is a mid sweep I here you cry, well believe me if I had the space I would explain it, however all I can say is you need it trust me).
4. It is very important to decide what your musical aims are. If you are building the studio around songs, you will have to choose a mixer capable of handling tape returns to go to the Sunrise board or at least calculate the inputs needed including the Sunrise option.

A typical mixer of this type would be a Mackie 8 bus mixer, which range from 16 inputs to 32 inputs, and have eight record sends. These mixers are expensive for the home studio, going up to £3999 for the 32 input desk.

However, if you want to produce music that does not need live recording, then perhaps something like the Yamaha 01 Promix would be more applicable, giving 16 inputs with three band parametric EQ, two dedicated effects units, three compressor/limiters and full midi controlled automation ( $£ 1899$ inc VAT).

These prices may seem expensive,
but if your synths are costing up to and around $£ 1000$ and are of excellent sound quality, doesn't it make sense not to degrade them with inferior mixers that may add noise.

That said, Mackie do make a superb 16 input mixer for £899 called the 1604 and it has an automation upgrade supported by Bars \& Pipes pro 2.5b, but on the down side the automation does add a lot of noise. Anyway back to the plan.

Below is the basic plan in five stages. Each of these five stages is subgrouped with suggested instruments, effect units, speaker options etc:

1. Your Amiga, B\&P pro, Sunrise Board and leads etc.
2. Synth 1, headphones, controller keyboard.
3. Synth 2 and 3, mixer, effect unit 1 , microphone (optional).
4. Good speakers and amp maybe another synth, DAT recorder (optional).
5. Effect unit 2 maybe 3, single-ended noise reduction, graphic EQ

In turn this should be accompanied by a diagramatic of the current section, with the inclusion of the previous stages and a financial plan and budget of each section.

It is important to read as many reviews as possible to give you a general idea of what to look for. However, reviewers do not always get it right, so at the end of the day trust your ears.

## Stage two - part three of the plan

This is the really heavy bit - lots of cash needed here. You should choose one of the mixers highlighted below, along with one of the effect units listed.

I have also put down a few suggestions on second synth modules. You could of course pick an instrument from the list in stage one. However, try to buy a different make of instrument than the one purchased in the earlier stage.
Individual makes tend to have their own sound, i.e. most musicians can tell an EMU Proteus sound or a Roland sound.
You may wonder why I recommend only one low -cost microphone. Well its simply because it stands out as particularly good value against the rest, though others, such as the Shure SM57/SM58, might suit you better for stage work.

Mackie 1202 \& Mackie 1604: these mixers are extremely good value and will fit most peoples needs. They are true studio quality and in the case of the 1604 it offers 16 line inputs, three band EQ, six studio quality balanced XLR microphone inputs and a great multi-functional aux effects system.

The Mackie 1604 has a good EQ but no mid sweeps - however, I would still highly recommend it.
Price: Around $£ 500$ for the 1202 and 8899 for the 1604.
Mackie 8 bus series: this mixer would be the mixer of choice - however, its cost may be too prohibitive for most home studios. That said, its specification is astounding in a mixer of this price.
Specification: between 16 and 32 mic/line inputs, four band EQ with two mid sweeps, six effects sends and 12 returns, optional full meter bridge, stunning noise specification, up to 32 tape returns and a mix B option which doubles the number if inputs on mix down.

The desk also features full in-place solo and individual channel mutes, along with really smooth faders and of course an eight channel recording bus - stunning.
Price: 16 - 8-2 = £1600 approx; 24-8 - 2 = £2400 approx;
$32-8-2=83500$ approx.

## Stage one - part two of the plan:

## thoose one of the following instruments in conjunction with items mentioned in the ouerall system ouerview relating to stage one:

Yamaha TG500 Specification: 64 note polyphony; 16 part multi-timbral; six outputs; two multi effects units built in. Price: RRP £1099, can be purchased for as low as $£ 799$.
Comment: Great as a first instrument and as part of a bigger set up. As with most instruments it will take a while to learn how to use, but with 64 note polyphony it should enable you to put together multi-timbral pieces without running out of notes.

Korg 05W Specification: 32 note polyphony; $\mathbf{1 6}$ part multi-timbral; two outputs; two multi effects units built in. Price: RRP £599.
Comment: Excellent sounding half rack unit with really big sounds. However, the 05 w has only two outputs which could be a bit limiting in the long-term, though as part of a bigger system would not cause too many problems.
The 32 note polyphony may be a little limiting for those bigger pieces. In some ways I prefer the sound of this unit to the TG500, but the Yamaha
instrument gets ahead on multi-timbrality and the six outputs and the sounds are still very good.

Proteus FX Specification: 32 note polyphony; 16 part multi-timbral; two outputs; two multi effects units built in. Price: $£ 500$
Comment: Wow the proteus - still here, still cool. This new version, updated with inbuilt special effects and sounds from the Proteus 2, has about the best sound samples around - ideal for real instrument sounds, though it includes synth type sounds as well.
In a big multi-timbral setup it is a fantastic asset, offering a certain realism to the mix. However, the proteus has a unique sound and may be a little easier to recognise when its stand alone.
This said, I have a Proteus $1 \& 2$ as part of my set up and would highly recommend it. They are also the easiest synth modules to program I have ever used.

Overall stage one comment: This system is very basic, but gives you a good base on which to build your studio. There are, of course, other instruments worth considering such as the Roland Sound Canvas and Yamaha TG300. (Also included in this set up is the Roland PC200 and Sennheiser HD 560 Ovation 2 headphones).
Stage one budget (excluding Amiga B\&P pro and Sunrise Studio 16 \& MIDI port \& MIDI leads) includes one sound module, a controller keyboard and headphones, totalling around $£ 1110$.

## Special effects units

Sony R7 reverb unit: opinions on reverbs vary dramatically but the Sony R7 really is an excellent unit. This reverb is incredibly smooth and powerful and is my first recommendation for a major reverb.
The Sony R7 has been overlooked by many people in preference for more established manufacturers in special effects, such as Yamaha and Lexicon. However, having used it fairly extensively in the last year, I would say that it is quieter and more flexible than other similar-priced units.
Price: $£ 900$ approx.
Lexicon LXP15: a classic reverb sound at a reasonable price. Also included in this range is the LXP1, the predecessor to the LXP15. Either of these would be a good choice, though they are both noisier than the Sony.
Price: Approx $£ 799$ for the LXP15; approx $£ 399$ for the LXP1.
Cheaper alternatives could include the Boss SE70 or perhaps the Alesis range of reverbs, including the classic Quadraverb.

Microphones: well actually microphone, because I will only recommend one, the AKG C1000s. While there are many microphones that are better, such as the Beyer MC740, the AKG C1000 has the most accurate sound of any microphone under £600 and subsequently has to be the overall microphone of choice. It is great for vocals, speech, and even acoustic instruments.
Price: £229 RRP.
Other instruments worthy of recommendation are the Alesis Quadrasynth, Korg X3R, Roland R8 drum machine and the Ulitra Proteus, all of which I do not have space to write about.
Price: Wavestation SR approx £990; Roland R8 approx £499.

|  | $£ 800$ |
| :--- | :--- |
| Studio One |  |
| Yamaha TG500 Sound Module | $£ 110$ |
| Sennheiser HD560 Ovation headphones | $£ 200$ |
| Roland PC200 Controller Keyboard | $£ 1110$ |
| Total |  |

Studio Two

| Yamaha TG500 Sound Modul | $£ 800$ |
| :--- | ---: |
| Korg Wavestation SR Sound Module | $£ 990$ |
| Roland R8 Drum machine | $£ 499$ |
| Mackie 1604 Mixer | $£ 899$ |
| Sony R7 Reverb unit | $£ 900$ |
| Sennheiser HD 560 Ovation headphones | $£ 110$ |
| Roland PC200 Controller Keyboard | $£ 200$ |
| AKG C1000s Microphone | $£ 230$ |
| Total | $£ 4628$ |
|  |  |

Studio Three

| Yamaha TG500 Sound Module | $£ 800$ |
| :--- | ---: |
| Korg Wavestation SR Sound Module | $£ 990$ |
| Roland R8 Drum Module | $£ 499$ |
| Proteus FX Sound Module | $£ 500$ |
| Mackie 8 bus mixer | $£ 9400$ |
| Sony R7 Reverb unit | $£ 399$ |
| Lexicon LXP 1 Reverb unit | $£ 110$ |
| Sennheiser HD 560 ovation headphones | $£ 450$ |
| Audiolab 8000A Amplifier | $£ 399$ |
| Alesis Monitor One Speakers | $£ 350$ |
| Symetrix 511A Noise reduction | $£ 450$ |
| Alesis MEQ 230 dual 30 band EQ | $£ 200$ |
| Sony TCD D3 DAT player | $£ 230$ |
| Roland PC200 Controller Keyboard |  |
| AKG C1000s Microphone |  |
| Total |  |
| The Alternative Studio (based around the Yamaha Pro Mix 01 |  |
| and my personal choice) |  |

## Studio Three

|  | $£ 800$ |
| :--- | ---: |
| Yamaha TG500 Sound Module | $£ 990$ |
| Korg Wavestation SR Sound Module | $£ 1499$ |
| Alesis Quadrasynth | $£ 499$ |
| Roland R8 Drum Module | $£ 500$ |
| Proteus FX Sound Module | $£ 900$ |
| Yamaha Pro Mix 01 | $£ 110$ |
| Sony R7Reverb unit | $£ 450$ |
| Sennheiser HD 560 ovation headphones | $£ 350$ |
| Audiolab 8000A Amplifier | $£ 230$ |
| Acoustic Energy AE1 Speakers + stands | $£ 450$ |
| Symetrix 511A Noise reduction | $£ 200$ |
| Alesis MEQ 230 dual 30 band EQ | $£ 230$ |
| Sony TCD D3 DAT player | $£ 10307$ |
| Roland PC200 Controller Keyboard |  |
| AKG C1000s Microphone | Total |

## All for a price

Choosing an amp and speakers is always a difficult thing - should I buy a Quad, or should it be a Yamaha or perhaps a Carver. Well here goes another sacred cow.

My choice of amp is based around two factors. Firstly, the amp does not need to be extraordinarily powerful for the home studio and secondly, it does need to be flexible and accurate in sound.

For this reason I have chosen the Audiolab 8000 A amplifier. It of course can be used as part of a HiFi set up, but more importantly it gives a superb sonic performance in the home studio set up - incredibly accurate.

For the speakers I would choose the Alesis Monitor One, a great sound at a good price point and they are very well made.

While these would be my choice for a home studio, the more ambitious studio might look towards the Acoustic Energy AE1, or the low end Genelec speakers.
I would not on the other hand recommend Yamaha NS10s. They might be alright as secondary speakers, but they are unsuitable for main monitoring.

# Amplifiers and speakers 

Alesis Monitor One - price: approx $£ 399$ a pair.
Audiolab 8000 A ampilfier - price approx £450

As for any further instruments, I would recommend any of the sound modules I have mentioned earlier. DAT players on the other hand fall into two categories those with SCMS (Seriel Copy Management System), these are general ly designed for the home market, and those without SCMS, that are primarily designed for the pro market.

If you read a lot of HiFi magazines, your opinion might be that DAT is not that great - these magazines even suggest that it is not as good as CD - wrong.

DAT is used for mastering most of the CDs you hear today, so that scuppers that argument. The only thing wrong with DAT is that it will show up any hiss in the audio chain, as it is inherently silent.

My choice would be to go for a Sony portable DAT like the TCD D3 or D7, it


The Wevestation sh my permonal favourfte of all todny's aynthe.


Aloals MEC 230, an essential hom at the end of the recoriling chaln.
may have SCMS, but it makes no difference to the mastering quality whatsoever and sounds fantastic.

Sony TCD D3 - price: £499
As for part five of the plan, this really is the luxury department. Once again I would choose one of the effects mentioned earlier, but for critical equipment still needed, I would have to recommend the following items - Symetrix 511A or Drawmer DF320 Noise Reduction Units

Both of these units are absolutely essential finishing touches to the home studio. They are both single-ended noise reduction systems and subsequently do not need any decoding, unlike Dolby $\mathrm{A}, \mathrm{B}, \mathrm{C}$ and S noise reduction systems.

Both are fairly easy to use and make a massive difference to the finished mix. Price: between $£ 300$ and $£ 450$

## Alesis MEQ 230 dual 30 band EQ.

Often, even with the best of equipment and control rooms, EQ is still needed and can be great for adding that extra bit of punch and sparkle. As with the noise
reduction units, I would highly recommend one of these units to be used at the end of the recording chain, just before the DAT player.
Well that's it then - my recommendation for the perfect home studio (if there is such a thing). As with all these items, personal preferences will play a part in your buying decisions, but hopefully this article will serve as a guideline and, if nothing else, get you thinking.
No one person's view should be treated as gospel, so try out these suggestions and don't listen too much to the salesmen. Finally, whatever you do, remember to have fun, because at the end of the day, that is what it is all about.

All prices are based on magazine prices and not necessarily on RRPs.
All items should be found in most good music shops around the country. Bars \& Pipes pro 2.5 and the Sunrise AD516 \& Studio 16 hard disk recording system are available through Premier Vision on 071 7217050.

For a limited time only, the Sunrise Board will be offered at $£ 999$ inc VAT - its RRP is $£ 1299$. Bars \& Pipes Pro 2.5 can be purchased at $£ 199$ inc VAT - its RRP is £299.


Diten, wern with the best of eximment ind controll roomb, Ex is still neaded and lan be great for adoling that extra bit of punch and sparikle.

# OPEN ALL HOURS WELL, NEARLY! Gam-10pm Mon-Sat 10am-6pm Sunday 

SPFGIAL OFFaisw

| DSDD | 100 DISKS + |
| :--- | :---: |
| DISKS | 100 CAP BOX |
| 2911 | f 31.99 |

2.5" HARD DRIVES FOR A600/A1200

60 MEG
£139
80 MEG £189
120 MEG £199
258 MEG
£259 344 MEG £309
All hard drives include full fitting kit \& instructions
A1200 RAM EXPANSIONS
$\begin{array}{ll}\mathbf{2 M b} & £ 109.95 \\ \mathbf{4 M b} & £ 174.95\end{array}$
Features battery backed clock and socket for optional FPU

## PRINTERS \& RIBBONS

Star LC100 Colour
Star LC24-30 + Auto Sheet Feeder. $£ 1340900$
Seikosha SP1900 9 Pin Mono .2090 .00
.5119 .00 Seikosha SL95 24 Pin Col HP310 Colour Inkjet
HP310 + Auto Sheel Feeder $\$ 189.00$ 6219.00 Star LC24-200 Colour

## $£ 269.00$

WE STOCK A WIDE RANGE OF RIBBONS AT LOW PRICES - PLEASE CALL
LEADS \& CABLES

| Serial <br> Null Modem <br> Joystick Extender 3 metre <br> JoystickMouse Extender... <br> Amiga to SCART <br> Amiga to $1084 \mathrm{~S} / 8833$ <br> Analog Joystick Adapter <br> 4 Player Adapter <br> Pamet Cable. |  |
| :---: | :---: |

## LOOK! LOOK! LOOK!

 TRACTORFEED DISK LABELSNow you can print your own protessional disk labels!
500 Plain white disk labels on tractor feed,
complete with FOUR disks of software and artwork.
Yours for ONLY
$£ 9.95$
1000 Labels with software ONLY £13.50

## AMIGA HARDWARE

A1200 Race and Chase Pack. £289.95 A1200 Desktop Dynamite .... $£ 329.95$ CD32 + Software Amiga A4000 Microvitec 1438 Monitor $\quad £ 29500$ Cubscan 1440 Multisync ..... $£ 399.95$ External Floppy + Virus KIIIer $£ 56.95$ A500 Internal Floppy Drive .... $£ 48.95$ A500 512 K Ram Exp. Clock. 523.50 A500 1.5 Meg Ram Exp. ....... 876.95 A500 +1 Meg Ram Exp. ....... $£ 29.00$ A600 1 Meg Ram Exp. ....... $£ 29.00$ A12002 Meg Ram Exp + Clock $£ 109.95$ A1200 4 Meg Ram Exp+Clock $£ 174.95$ A500/A600/A1200 Power Supply. .E29.95

## DISKS \& LABELS

All disks are supplied with labels. UNBRANDED DISKS are $100 \%$ error free.
In the unlikely event that any of out disks are faulty, then we will replace the disks AND reimburse your return postage!
$3.5^{\prime \prime}$ DSDD Grade A
£0. 37 each
$3.5^{\prime \prime}$ DSDD Grade B
£0. 29 each
$3.5^{4}$ Rainhow.
e0.44 each
3.5" DSHD .................... 50.58 each
3.5" DSDD Fuil (box of 10 )..... $£ 4.90$
$3.5^{*}$ DSHD Fui (box of 10 )...... $£ 8.90$ $5.25^{\prime \prime}$ DSDD Fui (box of 10 ).... $£ 2.50$ $5.25^{\prime \prime}$ DSHD Fuii (box of 10 )... $£ 4,90$
1000 3.5" labels.
. $£ 6.50$
10003.5 " tractorfeed
£8.50

## STORAGE BOXES



VISIT OUR SHOP
9.30am - 5.30pm Mon - Sat, 9am - 1pm Thurs


## MISCELLANEOUS



## JOYSTICKS

All joysticks have autofire teature
except those marked
Triager Grip Models
Quickshot turbo.
Python 1M
Jetfighter
Topstar,
Sigma Ray
Base Fire Button Models
Base Fire Bu
Maverick 1 M
£6.95
$\$ 12.95$
Megastar ......................................................... 21.50
Zipstick..................................... $£ 11.95$

Comp Pro Extra........................................... 95
Comp Pro Star
Cruiser Multicolour
Advanced Gravis Black ................... 24.95
Advanced Gravis Clear .............. £27.95
Comp Pro Star MINI...................... 14.95
Aviator 1 Flightyoke...................... $£ 22.95$
Handheld Models
Speedking
. 10.50
Navigator
£13.95

## ANALOG JOYSTICKS

These Joysticks will fit any Amiga
Warrior 5
Saitek Megagrip 3
. 14.95
Speedking Analog £13.95
Intruder 5 $\qquad$ £13.95
Aviator 5 Flightyoke £27.50
Adaptor to use any PC analog joystick
on an Amiga.
ONLY $£ 4.99$

0t's a regular and unfortunate business practice - glossing over the truth. On the edge of bankruptcy? 'Never mind, just a setback, sales are excellent, we've achieved record figures this year."

While viewing sales figures publicly through rose-tinted spectacles is exceptionally important for the PR success of any industry, there's always one group of people who are left behind in the aftermath of a failed company, licking their wounds and wondering what can be learnt from the expensive experience.

This group, a sometimes overlooked and underestimated clan of different genders, colours and creeds, are the buying public. Bought a CD32 recently? Feeling a little worried that your hard earned cash might have been more useful flushed down the toilet?

When any company sinks into financial obscurity, it has a knock-on effect throughout the industry - customers lose faith and decide that the original nagging doubts about buying a pricy piece of hardware were well placed after all. Subsequently, they don't want to invest any more and everyone loses out.

But in Commodore's case, what if you're a potential buyer of a 1200 and a CD drive is it really a wise move to buy one of the company's machine?

What about existing owners? Have they really wasted their money on a computer with no future? The Devil's Advocate winged its way down to the company's headquarters to talk to the UK's managing director, David Pleasance.


## biting

David Pleasance, MD of Commodore UK, the eternal optimist. "I've been through some bad times as well as good and for me, this is a small hiatus - it's not a major setback" the bullet

Q After the recent collapse of Commodore, can 1200 and CD32 owners feel confident in buying future Amiga equipment and receiving full support from the manufacturers?

A I don't think support is an issue because we do have very good arrangements, particularly with the likes of ICL who are doing a tremendous job of supporting our products.
As we stand at the moment, it is our belief that Commodore will be purchased

as a going concern. Therefore, if anything, the prospects for Commodore will be infinitely better than they have been for quite some time.

Q What do you feel brought about the downfall of Commodore?

A I believe we should never have gone into the DOS market and the decision to get out of it came after we had had two years of really losing money. I think we needed to have a more logical and coherent product development strategy than we had.

By that I mean the launching of products like the $500+$ and 600 virtually on top of each other were not good decisions. I think it was the general direction of the company and also the investment made in trying to enter markets that were not ideal for Commodore - these have all contributed to the position where Commodore lost a lot of money.

Q Do you feel that Commodore UK played a part in the company's financial demise?

A The UK market for Commodore has been a profitable operation for several years now - in fact, one of the most buoyant markets for Commodore. During periods of last year and six months of the year before, the UK branch was the biggest contributor to Commodore world-wide.

So, in terms of us playing a part, l'd say definitely not.

## Q What are your plans now for Commodore UK?

A As far as I am concerned, it's business as usual. I've had the fortune of being with Commodore for virtually 11 years now and I've been through some bad times as well as good times. I see this as a small hiatus it's not a major setback. I genuinely believe

## With Commadore filing for bankruptcy, eueryone is wondering

$-$ what will happen to the once great company. Adam Phillips talks to Dauid Fleasance about the past, present and future
that if Commodore is purchased it will be the best thing for the company, because there is no doubt that we are now significantly leaner and meaner than ever before.

If the right partners are involved in Commodore and are prepared to listen to the people in the subsidiaries that have survived, then I think our opportunities and future prospects are particularly bright.

My personal belief is that the UK company is currently in the best shape it's been in for many years. I think we are poised for a tremendous Christmas period and it really all depends on getting a company to buy Commodore as a going concern and to enhance the manufacturing facility.

Once that happens, I will be very confident. As far as the personal situation is concerned, at this moment in time foolishly or otherwise - I'm not looking for other work.

## Q Who are the potential buyers for

 Commodore?A There are three or four serious contenders. My belief is that one of those is a clear favourite and it could even be in the next 48 hours or so. I can't possibly comment on who it might be - it's very unfair to any potential purchaser to speculate because it can definitely have an adverse effect on any negotiations.

The last thing I want to do is upset any opportunity for this company to be bought which will therefore secure the jobs for the people who work here.

Q Who would you like to see buying Commodore ideally?

A Me, I can't afford it, but I would love to be able to run it though. Ideally, I'd like to see a company that is in the consumer electronics business but not in our market. One that has good manufacturing facilities, good R\&D and that has some channels to market.

I think the benefits that any company would get from the purchase of Commodore are (a) adding a whole new range of products to their portfolio and (b) taking advantage of what is probably the best distribution channel in Europe.

Take the UK alone. If you walk down Slough High Street - that's ten minutes from here - you'll find Commodore products in 30 shops. That's the kind of marriage I would be looking for in terms of a buyer of the company. However, that's the ideal position and we may not always get our ideal situation.

I really believe the Amiga technology is far too good and far too well supported to be lost over the next few weeks because of a company that's got itself into financial trouble.


Q If there is a buyer in the pipeline, how long before 1200s and 4000s are back in production?

A They would get back into production very quickly. I would envisage us getting supplies in time for the September season. There is a pool of products available to the subsidiaries at the moment - you've got Commodore UK, Germany, Italy and Scandinavia. Between all of us, we're looking after all the European countries.
We also have a pool of products available and are selling as and when we need them. My belief is that we can last until September when new product supplies arrive and, at present, we're taking advantage of the fact that this is the quiet period. I think we'll be okay...

Q How do you feel about the new 1200 CD Drive? There have been rumours that you're not entirely happy with the lack of FMV.

A While I'm still not happy about the lack of FMV, it's something which is technically not possible to do. The PCB on the 1200 doesn't have the gate array that's on the CD32 PCB, so there is no way of running full motion video. My concern has always been that while, at present, most 1200 owners will say "it doesn't matter about full motion video", I believe that as soon as the first fully-interactive game is released that uses FMV, the owners of the CD1200 will then say "hey, this doesn't work, we're not happy".

Q Do you feel that FMV-specific game development will be hampered because of the CD1200? Why develop for FMV which is a relatively small market at the moment when you can develop for both the CD32 and CD1200?

A I agree with what you're saying except we already know what is under development. I'm certain some companies are
already starting to port their PC development on to CD32 because, unlike most Amigas, the machine was designed to be able to take the graphics from a PC and display it in the chunky planar mode.

These products under development will become more and more available, but I guess, in some ways, it could be perceived a drawback to the developers that the CD1200 doesn't support full motion video.

I think they will realise that the CD32 is a big market in its own right and FMV, even without the interactive games content, is going to be a huge market.

It's going to be a bigger market than the games market anyway - we believe very strongly that music video CDs will be an enormous success.

Q Finally, are there any promises you'd like to make to existing Commodore machine owners?

A The only thing we can say to them is that we are totally aware of the development schedule that the software publishers are currently undertaking. It's pretty extensive - between now and September, there will be 60 more titles absolutely guaranteed.

This is not just hear-say like when we first launched the CD32. We've actually seen work in progress and there are definitely 60 titles coming out plus an additional 40-odd FMV titles.

From these products which have been developed specifically for the $C D$, there are some super 1200 products coming as a direct derivative. I guess the only promise I can make is that the software support has in no way abated and I don't see it abating for quite some time yet

## Thank you for your time.

If you have any comments or opinions on this month's interview then send them into the usual address for the Devil's Advocate's attention.

## $\sqrt{4}$ <br> AMITEK

Friendly Technology
Designed to bring you high quality and performance at affordable prices, AmiTek peripherals offer outstanding value-for-money. They are built to ensure easy fitting and trouble free operation - making them a pleasure to use. AmiTek products are also thoroughly tested and very reliable, so reliable that we are pleased to offer a full two year warranty on the AmiTek products detailed here.

## RAM UPGRADES <br> ITIIE FOR A500/ASOOPLUs/A600 - 2YR WARRANTY

 cooe $\begin{array}{ll}\text { RAM } 0505 & \text { A } 500-512 \mathrm{~K} \text { (No Clock) } \\ \text { RAM } 0510 & \text { A500-512K (With Clock) }\end{array}$ RAM 0510 A500-512K (With ClOckRAM 0520
A500PLUS - 1 MO $\begin{array}{lll}\text { RAM } 0605 & \text { A600 - 1M0 (No Clock) } \\ \text { RAM } 0610 & \text { A600 - } 150 \text { (Win Clock) }\end{array}$

TA PCMCIA CARDS

IMITEK FOR AMIGA 600/1200 - 2VR WARRANTY | CODE | DESCRIPTION | INC VAT |
| :---: | :---: | :---: |
| RAM 6020 | A600/1200-2MD Card | £119 |
| RAM 6040 | A600/200-4MD Card | $£ 179$ |



## Qu <br> 

FOR THE AMIGA 1200


Maximise the processing, power of your standard A1200. Be ready for the new generason of software which makes more demands on Amiga memory and lechnology. The AmiTek Hawk RAM expansion indudes up to 8 mot last 32 -dir RAAM
the abiity to support a sophisticated 6888 FPU (Floating Point Unit - drastically increases the speed of maths intensive operations) and a battery backed up clock. Buit to a high standard, this board can be easily installed and comes with a 2 year warranty. The Hawk RAM board is avalable in 9 pre-contigured versions enabling you to select the model which best suits your requirements.


$W_{1 m}$ SONY. $31 / 2^{\prime \prime}$ DELUXE FLOPPY DRIVE FOR ALL AMIGA COMPUTERS


DELUXE FEATURES
The AmiTek divive has been specially designed to meet the needs of Amga users and has many del uxe eearues whic are not
included in other trives - check out the competition!

ANTI-CLICK
The anti-cick feature stops your drive from making lengthy whirs
and clicks that occar when the drive is emply and searching tor a disk. ANTI-VIRUS
The switchable Anti-Vius mode stops track 0 viruses infecting the disk while in the dive. Yet, unlike many ober dorves which have virus diesabled, allowing some tussy copy protectec sotware to un.

ADD ADDITIONAL DRIVES
As a double sided mechanism the AmiTek drive gives 880 K of disk space affer formating. It is also daisy-chainable, which means that you may add further drives to your system and, uses
very litle power from your Amiga.

HIGH QUALITY SONY MECHANISM
AmiTak took the time to source a mechanism that has all the features, quality and reliability that Amiga owners have been cying out for. After vigorously testing Sony's mechanism, proved to be the best by far available.

- High Quality $31 / 2$ " Sony Mechanism
- Strong Metal Casing
- Built-lin Anti-Click Feature
- Switchable Anti-Virus Mode
- Enable/Disable Switch
- 75ms Access time
- Daisy Chainable Via Thru Port
- Low Power Usage
- No Need For External PSU
- 2 Year Warranty


## EXTERNAL DRIVE




## MAIL ORDER AUS Hecmache 081-309 1111

1-4 The Mews. Hatherley riono, SidCup, Kent, Dati 40X plus branches at:<br>PLus

BRISTOL
 CHEIMSERD Datentams-46-50St. Dand'sWiy 0222399789 CHELMSFORD Detentams - $2 x t$ foox, 27 Hgh Street 0245355511 CROYDON Detentants - (2d Rowl, 11 -3t North End 051 -638 4455 GLASGOW Debarhams-18a haol 97 Anyle Stuet 041-221 00BB GUILDFORD Deberthars-13tAvail Milibrock 0483301300 HULL Deberhams-2ativel. Prospect Srost 048225151 IPSWICH Deborrums - (2ad Aoen Westpres Strtet 0473221313 LONDON 52 Totherham Court Road $\quad \mathbf{0 7 1 - 5 8 0} 4000$ LONDON Debentams - Ow Awo 334 Orford Si 071-493 3735 LOMDON Seltrifpes-Dannet hasal 359 Oxford St 071-629 1234

 PLYMOUTH Debenthans-3t foort, Ropil Perate 0752266666 SHEFFIELD Deberhans Dartood The Moor 0742768511
 SOUTHAMPTON Detertams - (aut Rood, Queenswy 0703223888 THURROCK Debentams-(senmel Lakesids Centre 0708860066

*$n$ the past there have been few attempts to bring a powerful yet easy language to the Amiga - the most widely known being Amos. But up until now they all seemed to have good points and plenty of bad points, such as not supporting Workbench windows.
Thankfully there is a new competitor on the scene and although the developers behind it are not widely known, this new contender has caused such a stir to the extent of being accepted world-wide by Amiga users with outlets in America, Europe and Australia.
Because of this, and your response to last issue's insert, we are going to bring you as much support for Blitz Basic 2 as we can muster, and at the same time spread a little light on the rather incoherent yet necessary manuals.

## BASICS

Throughout this tutorial I will be working on the assumption that you know how to load up Blitz, load and save programs written in Blitz and compile them. If you are unsure about any of these or have problems following this tutorial then please write in.

In this first tutorial I will go through the basics of programming the Workbench screen, addressing the subject of screens, windows, gadgets, menus and events.
The principal behind the Workbench system is a complex system of libraries, messages, ports, packets and devices. Nearly everything you program that makes use of screens, windows, menus or gadgets will in some way interact with this system.
Thankfully Blitz handles all but the simple things for you, thus allowing you to concentrate on making your program professional and worthwhile. Lets open a window in our first program (please refer to the Ref Manual if you are unsure to the syntax or use of any of the commands):
vestartup
Important if running on Workbench:

## Closetd

Saves us a bit of memory:

## Notht

We want our program to be displayed on the Workbench screen:
ev. $1=0$
A 'long' var to hold our events:
VorkbenchenchToriont_

This is what our window should look like


## Bliteing on the

## Create your awn user-interface in this first instalment of the new Blite Basic ¿ Amiga Euide

Pull the Workbench screen to the front (Oooh a library call!!):

VorkbenchToSereen 0
Assign the Workbench screen a number:
Wse Screen 0
Lets make use of the Workbench screen:
Vindov 0,120,70,200,40,51000|58,"Ky Vindow*,1,2
The window:

## How dol get help?

If you have any questions that you need addressing from reading this column, you can write to me, Michael Mine at:

Bitizing on the Amiga co Amiga Computing Europress
Publications Ltd Europa House Adington Park Macclesfield SK10 4NP.
(NB: Please state what machine you are using and any peripherals that you have)

Clears our window:
Ylocate 0,0
Positions the cursor at the top left corner:

> Print "Press ' $q$ ' to quit!"
> Print "Enter value 1 ''

Prompt:

## asaEdits(5)

Obtain 5 chars from user:
If ( $\mathrm{a} s==^{\prime \prime} \mathrm{q}^{*}$ or a $\mathrm{a}^{\prime}=^{*} \mathrm{Q}^{*}$ ) Then Goto quit
If it is a ' $q$ ' then jump to 'quit':
Print "Enter value 2:"
Repeat as above for second value:

```
bs=Edits(S)
If (bs="'q* Or bs=**") Then goto quit
a=Val(as)
```

Convert string values to numbers:

$$
\begin{aligned}
& \text { b=Yal(6s) } \\
& \text { NPrint }
\end{aligned}
$$

Print an empty line:

```
NPrint a,***,b,'=",a+b
```

Print sum:

## vPrint **

Another empty line:
Frint "Press return to contimue!" as=Edits(1)

Wait for return:

## Forever

 quit:This is where we jump to if the user enters a ' $q$ ':

## CloseVindou 0

Close our window:

## End

and terminate program.
This time we cannot accurately find out if the user has used the close gadget on our window or not. This is because the command 'Edit\$' holds up your program while we are getting an input from the user.
During this time all we can do is wait until the user has hit return, therefore we have no way of testing whether the user has hit

our close gadget. That's why we also didn't need to put a close gadget on our window (represented by \$8).
As you probably know, the above program is a simple adding program which continuously picks up two values from the user and then prints out the sum until the user enters a ' $q$ '.

The first two commands simply clear the window and replaces our cursor to the top left of our window. Then we print a simple

| My Adding Progr dm U1 |  |
| :--- | :--- | :--- |
| Pres5 gr to quit | Now <br> things are <br> starting to <br> look good |

message to the user and wait for the user to put in the first value.

If you are unsure as to the difference of the 'NPrint' and 'Print' commands, the 'NPrint' does the same as a 'Print' but returns the cursor to the beginning of the next line after printing.

Notice that in the Ref Manual there are two 'Edit' commands, and that the normal 'Edit' command is ideal for only accepting numbers. We haven't used this because we still need to check whether the user wishes to quit.

It is easy to do this by obtaining their input in a string format ('Edit\$'). Check whether the user wishes to quit - exit if the user does - and then, if it is a value, convert it to a number and continue with the sum. This is why we have two sets of variables to hold both the strings and the numbers.
The 'Forever' in the loop does just as it says - repeats the loop forever!

It's time to wrap up this first tutorial. But remember, the only way you are ever going to be a competent programmer is to practice, so try playing around with the window - even try opening two or three windows (don't forget to close them all!).

Look out for the next issue where I will explain opening your own screen and menu programming to add that professional feel to your programs.

On the next issue's CoverDisk will be the first UK Blitz User Disk Magazine, so don't miss out, reserve your copy today!

40

## A brief description

The screen - the screen is the very foundation of the Workbench display. It acts like the drawing board for all your visible operations which the user will see. The screen is used to display all your windows and gadgets, without which there would be no display.

Unfortunately screens are not very flexible. They can only be pushed to the back of the display, but are nonetheless very important.

Blitz allows you to make one of three choices when programming screens - use the Workbench screen, open your own screen or grab someone else's.

Once you have done one of these you will have a screen number assigned to that screen which can then be used to reference it for your various operations.

The window - although you can use a screen to do all your input and output on, the window is the much preferred friend of the system programmer. This is because it allows for a more stylish and easy-to-use display, allowing for the use of gadgets and menus.

The window, as the name suggests, is like an opening, giving the user a view. Of what? Well, whatever the programmer wishes the user to see! But unlike the screen, the window is completely flexible and with the right programming it can be re-sized, moved around, pulled to the front and pushed to the back. They can now even display pictures inside themselves. (As long as you have OS 2.00 or higher!).

Just like screens, each window has their own unique
number and because of this you are allowed to open more than one window on any one screen, addressing each one by its identifying number.

The gadget - gadgets are the next simplest input/output from basic text input. They can display messages, hold text strings or numbers, be used as scroll bars, even cycle through a list of different options!

But there is a limitation of using gadgets - they can only be displayed from within windows. This is because the operating system was designed to handle them this way, so you can have multiple windows open and find out which gadget was hit in which window, thus allowing for more flexible and open programming.

Gadgets also have their own unique identifying numbers so that you can determine at any time whether or not a specific gadget was used.

The menu - menus are another way of obtaining interaction with the user. They can sometimes be preferred to gadgets due to their simple orderly composure, but can also be used in conjunction with gadgets to produce flexible applications.

When programming menus there is generally one purpose for which to use them, and that is to offer the user a selection of options. Thankfully the system will handle most of the interaction, allowing us to pick up the users choice and crack on with the request.

# White Knight Technology 

## AI200 ACCELERATORS

GVP A1230 II, 40MHz EC030, Opt. FPU
WITH OMB 32-Bit RAM
£ 229
4MB 32-Bit RAM
£ 419
GVP A1230 II, 50MHz 030, Optional FPU
WITH OMB 32-Bit RAM New Lower £ 299 4MB 32-Bit RAM Prices I/ £ 499 $4 \mathrm{MB} \mathrm{RAM}+50 \mathrm{MHz} 68882 \quad £ 599$ GVP A1291 SCSI I/F for A1230 II £ 59 MICROBOTICS M1230XA WITH 33 MHz 68030 \& MMU, OMB 50 MHz 68030 \& MMU, OMB Speciel 50 MHz 68030 \& 68882, OMB
£ 249
£ 319
£ 419

## BLIZZARD 1230-II TURBO

WITH 40MHz 68EC030, OMB £225
50 MHz 68030 \& MMU, OMB £ 289 Special 50 MHz 68030 \& 68882, OMB £ 399 BLIZZARD SCSI-II I/F for 1230-II
£ 79

## A2OOO ACCELERATORS

GVP G-FORCE $25 \mathrm{MHz} 68030+$ Fevt
1MB 32-Bit RAM + SCSI Port Lat \& 345 GVP G-FORCE $40 \mathrm{MHz} 68 \mathrm{EC} 030+$ 4MB 32-Bit RAM + SCSI Port $£ 685$ GVP G-FORCE 33 MHz 68040 + 4MB RAM, SCSI, Ser \& Par Ports £ 979

## A4000 ACCELERATORS

BLIZZARD 4030 TURBO $50 \mathrm{MHz} 68030+$ MMU, Opt. FPU (For A4000-030) £ 259 Available with 50 MHz 68882 FPU for $£ 369$ CYBERSTORM $040 / 40 \mathrm{MHz} 68040+32$-Bit RAM, Opt. SCSI-II (For A4000 range) £ 899 CYBERSTORM 060/50MHz $68060+32$-Bit RAM, Opt. SCSI-II (COMING LATE 94) Call GVP G-FORCE $40 \mathrm{MHz} 68040+4 \mathrm{Mb}$ 32Bit RAM (Exp. 128Mb), Optional SCSI-II DMA Controller (For A3000/4000) £1275 WARP ENGINE $28 / 33 / 40 \mathrm{MHz} 68040$ $4 \times 72$ Pin SIMM Slots for upto 128 Mb RAM Built in FAST SCSI-II DMA Interface New 28 MHz Version (Without CPU) £669 28 MHz Version (With 68040/25) £ 819 33MHz Version (With 68040/33) £1099 40MHz Version (With 68040/40) £1279

## AMIGA 1200HD

$\begin{array}{ll}\text { A1200 + } 127 \text { MB Hard Drive } & £ 489 \\ \text { A1200 + 200 MB Hard Drive } & £ 525 \\ \text { A1200 + 340 MB Hard Drive } & £ 689\end{array}$
ADD £ 50 FOR INNOVATIONS

## ALL PRICES INCLUDE <br> AMIGA 4000

## BDCSES

Our Own Special Using The WARP ENGINE
Includíng 68040, High Speed RAM \& SCSI-II A4000-RK28, with 28 MHz 040 Warp Engine 2Mb Chip , 4Mb Fast RAM, No Drive £ 1749 A $4000-$ RK 33 , with $33 M H z ~ 040$ Warp Engine 2Mb Chip , 4Mb Fast RAM, No Drive £ 1999 A $4000-$ RK 40 , with 40 MHz 040 Warp Engine 2Mb Chip , 4Mb Fast RAM, No Drive £2199

Your Choice of $3.5^{\prime \prime}$ SCSI-II or IDE Drive
RAM on A 4000 ROCKET is expandable to 144 Mb

## EC-D3D

The EC-030 has no MMU or FPU A4000-EC030, 6MB RAM, No Drive £ 959 A 4000 -EC 030,6 MB RAM, 214 MB £ 1149 A $4000-\mathrm{EC} 030,6 \mathrm{MB}$ RAM, 340 MB £ 1199 A4000-EC 030,6 MB RAM, 420 MB $£ 1229$ A4000-EC $030,6 \mathrm{MB}$ RAM, $540 \mathrm{MB} £ 1349$ A4000-EC030, 6MB RAM, 1.0 GB £ 1699

FPU's are available, priced from $£ 69$
IC-D4D
The LC-040 has an MMU but no FPU A4000-LC $040,6 \mathrm{MB}$ RAM, No Drive $£ 1489$ A 4000 -LC 040,6 MB RAM, 214 MB $£ 1639$ A4000-LC 040,6 MB RAM, 340 MB $£ 1739$ A 4000 -LC 040,6 MB RAM, 420 MB £ 1759 A 4000 -LC 040,6 MB RAM, 540 MB £ 1859 A 4000 -LC040, 6 MB RAM, $1.0 \mathrm{~GB} £ 2229$ Upgrade to the full 68040 processor for $£ 165$

## DAD-JDWRIS DELAYED

The $040-$ Tower has both an MMU and FPU It has 2 video slots and both SCSI-II \& IDE A4000T-040, 6MB RAM, No Drive $£ 1889$ A4000T-040, 6MB RAM, 214 MB IDE $£ 1989$ A $4000 \mathrm{~T}-040,6 \mathrm{MB}$ RAM, 525 SCSI-II $£ 2289$ A4000T-040, 6MB RAM, 1 Gb SCSI-II £ 2589 FREE UITH RLL R4000S DPANT IV AGA. WORDWORTH V2 AGA

[^4]
## HARD DRIVES

## A1200 2.5" Internal IDE

85 MB \& CABLE £ 159 170 MB \& CABLE \& 265

## OVERDRIVE 35 for A 1200

New Low Prices $170 \mathrm{Mb}-£ 269$ $250 \mathrm{Mb}-£ 289$ 340 Mb - £ 329

## Bare SCSI

210 MB SCSI $3.5^{\prime \prime} £ 229$ 290 MB SCSI $3.5^{\prime \prime}$ £ 299 340 MB SCSI $3.5^{\prime \prime}$ £ 369 545 MB SCSI2 $3.5^{\prime \prime}$ £ 499 1.0 GB SCSI2 $3.5^{\prime \prime} £ 699$
2.1 GB SCSI2 $3.5^{\prime \prime} £ 1299$

## A4000 IDE

256 MB IDE $3.5^{\prime \prime} \quad £ 199$ 340 MB IDE 3.5" £ 235 420 MB IDE 3.5" £ 265 540 MB IDE 3.5" £ 379 1.0 GB IDE $3.5^{\prime \prime} \quad £ 749$

HARD DR/VE CONTROLLERS
GVP HC8 / A4008 SCSI + RAM A2000 \& 4000 £ 129
FASTLANE Z3 SCSI-II + Upto 256 Mb For the A4000 Range Now Only £ 299

## SEAGATE 2.1Gb

 BARRACUDA The Fastest SCSI-2 Drive ( $5.8 \mathrm{Mb} / \mathrm{s}$ Sustained ) $£ 1599$The FASTLANE Z3 or WARP ENGINE And BARRACUDA Are The Only Combination Capable Of Reaching Beta SP Video Quality On The DIGITAL BROADCASTER 32.

## NEW PRODUCTS

CD32 CD-ROM DRIVE FOR A1200
THE "OVERDRIVE CD" RUNS 90\% OF OFD32 SOFTWARE, SHOWS PHOTO CD's AND PLAYS AUDIO CD's (Fits PCMCIA Slot) ONLY £ 195 LIGHTWAVE 3D - FROM NEWTEK (OFFICIAL UK PAL VERSION - NOT LIGHTRAVE) Special Introductory Price £ $\mathbf{4} 9$

## REMOVABLE DRNES

"THE BOX 150 " BERNOULLI By IOMEGA 150MB SCSI-2 INTERNAL DRIVE $£ 485$ 150MB SCSI-2 EXTERNAL DRIVE $£ 555$ 150MB REMOVABLE CARTRIDGE £ 95 Drives are supplied with 1 FREE Cartridge

## MAGNETO OPTICAL DRIVES

FUJITSU 128MB SCSI INTERNAL £689
FUJITSU 230MB SCSI INTERNAL £ 869

## DAT TAPE BACKUP

WANGDAT SCSI DAT Streamer - 2Gb
External with DAT Tape \& Cable £ 869 CD ROM DRIVES
TOSHIBA XM3301B SCSI (Ext.), Single Speed, Multi-Session (inc. leads) £ 225 TOSHIBA XM4101B SCSI-2 (Int.), Twin Speed, Multi-Session (H/V mount) £ 225

SOFTWARE<br>REAL 3D V2 New Low Price £ 339<br>ART DEPT. PRO. V2.5<br>£ 149<br>BRILLIANCE 1 To Clear<br>£ 69<br>BARS \& PIPES PROFESSIONAL £ 215<br>MEDIA POINT V3. 28<br>£ 229<br>TVPAINT 2 (Picasso / Retina / Harlequin / EGS) $£ 179$ SCALA MULTIMEDIA 210 (AGA) £ 145 SCALA MULTIMEDIA 300 (AGA) PRO CONTROL (For ADPRO) £ 295 ASIM CD-ROM FILESYSTEM (V2) £ 55 Other Professional Software Available On Request

## MONITORS

MICROVITEC CUB-SCAN $143814^{\prime \prime}$
(Multi-sync, 0.28 dot pitch, No Sound)
MICROVITEC AUTOSCAN 2038 20"
(Multi-sync, 0.31 dot pitch, Digital Memory) $£ 1175$

## CPU'S \& FPU'S

6888120 MHz PGA \& $39 \quad 6888225 \mathrm{MHz}$ PGA £ 59 6888233 MHz PGA \& $99 \quad 6888250 \mathrm{MHz}$ PGA £ 129 68882 25MHz PLCC - For A4000/030 etc. £ 69 68882 33MHz PLCC - For A4000/030 etc. £ 89 6888240 MHz PLCC - For A4000/030 etc. $£ 119$ $68040 \mathbf{2 5 M H z}$ - For Upgrading A4000-LC040 £ 165 6803025 MHz with MMU (PGA Style) 6803033 MHz with MMU (PGA Style)
£ 69 \& 109
6803050 MHz with MMU (PGA Style)

## MEMORY SIMM'S

32MB SIMM-32 £1399 16MB SIMM-32 £ 699 8MB SIMM-32 £ 325 4MB SIMM-32 £ 160 2MB SIMM-32 £ 85 1MB SIMM-32 £ 39 GVP SIMM-32's 4MB £ 195, 16MB £ 985

## VIDEO PRODUCTS

 BROAD CASTER 32This Zorro III card performs the major functions of a Broadcast Quality, On-Line, Non-Linear, Digital Video edit suite (CCIR601 $720 \times 576$ resolution). It provides REAL-TIME, FULL MOTION JPEG (50 fields / second) Capture \& Compression, direct to hard disk. The video can then be edited and subsequently played back in REAL-TIME, at 50 fields/sec in upto broadcast quality - direct to video tape etc. The board has full LTC and VITC timecoding, both read \& write (on all connectors Composite, Y/C and YUV). It also interfaces with the AD516 Studio 16, 8 track stereo audio card from Sunrize Industries to enable simultaneous audio and video editing. It requires an Amiga 4000 or 4000 T with full 68040 processor, a large SCSI-2 hard drive, and a fast SCSI-2 hard drive controller

Amiga $4000-030(2+8 \mathrm{Mb}, 1.0 \mathrm{~Gb} \mathrm{HD})$ Digital Broadcaster 32 (Zorro III Card) MediaFlex Producer (Editing Software) Warp Engine 28 MHz 040 with SCSI-II 2.1Gb Fast SCSI-2 3.5" HD (For Video) Sunrize AD516 / Studio 16 (Audio Card) Cub-Scan 1438 Monitor (For Amiga) Sharp 14" TV / Monitor (For Video) Image Processing Software (ADPRO) System Configuration \& Testing
GIVING FULL, BROADCAST (Beta SP) QUALITY ON-LINE, NON-LINEAR, VIDEO EDITING FOR FURTHER DETAILS, PLEASE CALL. Dealers - We are SOLE UK Distributors - Call

MAIN BOARD (V.2)
VIDEO PROCESSOR VIDEO SUITE
£ 389
Due September

GVP TBL PIUS TBC card with
transcoding PAL/SECAM/NTSC etc. $£ 685$
GVP SPECTRUM EGS
24-Bil Zorro II / III EGS Retargettable Graphics Card.
SPECTRUM With 2Mb VRAM
£ 345
GV/P G-LOCh External Composite \& S-VHS / Hi8 unit. S/W Controlled £ 295 HARLEQUIN + (NEW Lower Price) With 4 Mb Vram/double buffered $£ 1149$
VLab Real-time composite digitiser $£ 299$ VLab Par Real-time external digitiser $£ 349$
VLab Y/C Real-time Hi8 digitiser card $£ 349$
SYWIPATI[CA. II Single Frame Rendering System. With Time Lapse + Stop Motion Facilities $£ 349$
RETIVAZ Z3 DISPLAY CARD Zorro III $\varepsilon$ Call

| RETIVA DISPLAY CARD 2 Mb |
| :--- |
| RETIVA DISPLAY CARD 4 Mb |
| R 375 |
| 485 |

PI[CASSO II RTG Card With 2 Mb VRAM
£ 339
PICA550 I/ with Workbench \& Kickstart 3.1
Upgrade (A2000) \& 409 (A3000/4000) £ 419

## MICROBOTICS <br> SX-1

Expansion for CD32. Floppy, IDE, Ser / Par, RGB video, SIMM socket, Real-Time clock \& Kbd Skt etc. £ 195

## SCANNERS

EPSON GT-6500 A4,
24-Bit Colour with ASDG Software \& Cable £699

## MISCELLANEOUS

BSC MULTIFACE 3 I/O Card (2 Ser/1 Par) £ 99 COMMODORE 1802 Hi8 / Composite Monitor £ 75 A570 CDROM £ 90

## SYSTEM BUILDING

WE HAVE THE EXPERTISE TO BUILD A COMPLETE SYSTEM FOR YOUR APPLICATION - PLEASE CALL TO DISCUSS YOUR REQUIREMENTS

## SPECIALISTS

WE KNOW ABOUT THE PRODUCTS THAT WE SELL AND ARE MORE THAN HAPPY TO ADVISE YOU.

## SERVICE

FOR A PERSONAL SERVICE, AND AFTER-SALES BACKUP THAT IS SECOND TO NONE, LOOK NO FURTHER

## DELIVERY CHARGES

Express Small $£ 6$
Medium $£ 7$
For large items, please call.

## SURCHARGE

If ordering with ACCESS or VISA, there is a $2.5 \%$ surcharge. No surcharge for DELTA, CONNECT or SWITCH.

## HOWTO ORDER

HAVE YOUR DEBIT OR
CREDIT CARD DETAILS AT HAND, AND CALL
0992714539
10-7 Monday - Friday Closed Sat \& Sunday BY POST :-
CALL FIRST TO VERIFY PRICE AND AVAILIBILITY BEFORE SENDING YOUR ORDER TO
"WHITE KNIGHT TECHNOLOGY", P.O. BOX 2395, WALTHAM CROSS, HERTS. EN8 7HQ

 <br> \title{
exing
} <br> \title{
exing
}

## A 24-bit graphics card

 compatible with all applications? Frank Mord grasps his specs and peers into Retina III0t was with great delight that I opened the parcel containing my review Retina BLT Z3. I thought 'Great! Zorroll performance, 4MB Display RAM and Workbench emulation."
Now, I already know a bit about Workbench emulation courtesy of my Picassoll card, where setting a screenmode is an absolute breeze. Picasso creates new standard Intuition screenmodes that can be set in any Screenmode requester, so, as you can see, I was hoping that Retina's would be as transparent and easy to set up.

I opened the box that Retina came in and already I was frowning. MacroSystems have a deserved good reputation for creating solid hardware, vis VLab, and I had hoped that this was going to be no exception. I have to say I was disappointed.

First off, the Retina isn't a full length card - it's just as long as it has to be to plug into the Zorro slot. I would much rather have seen a full-length card that was easier to plug in, because it was guided in at both the front and back of my machine instead of wobbling around as I pushed it in.

## MONITOR

Next, I knew that the original Retina only had one monitor output port on it, so if you wanted to see Amiga screens you had to run two monitors side-by-side, but I had heard that the Retina Z3 was going to be equipped with two instead of the single port 1 found (most of the other RTG graphics cards on the market have a monitor input port to provide a pass-through of the standard Amiga video signal when the card is not being used).

I had also heard that video output was to be included as standard, and looking at the board it seemed that my suspicions were confirmed as there were two video ports, one composite and one $\mathrm{Y} / \mathrm{C}$, on the back of the board.

But it turns out that to use them you are required to buy an extra PAL encoder card which fits onto the Retina board. So why bother going to the expense of putting ports onto the card that potentially few people are going to make use of?
My third initial complaint concerns the rather skimpy manual that is provided. MacroSystems are well-known for writing dense, hard-to-understand manuals, but they usually have some depth to them.

The Retina manual is only 43 pages long. It doesn't go into enough detail on a lot of lopics, and leaves out any details whatsoever about the rather dire paint package

## belieuing

## What was RTC again?

RTG is an acronym for ReTargettable Graphics, a mythic Commodore standard for incorporating other people's graphics cards into the Amiga system.

The idea is that a user can plug a graphics card into the machine and then use all the software on that card as though it were normal Amiga graphics.

To be able to do this several things need to happen first. One is that software designers have to obey the rules when it comes to creating the interfaces for their programs.
Requesters and windows should be fontsensitive and programs should offer the user a screenmode requester to choose the mode most suitable for his or her needs.
The other is that Commodore needs to define an RTG standard so that the software and hardware developers have something to aim for instead of all the conflicting systems that are currently in use.
they are all also listed in the program called RetinaEmu which you run next.

RetinaEmu is really the heart and soul of Retina's RTG effort. When you run a program you haven't run since you got the Retina, it makes a note of it in its list. You can then pick that program's name from the list and choose a Retina screen mode to run it under.

Few programs seem to mind this rather cavalier attitude to their screens, but programs like VistaPro and DeluxePaint, that have custom interfaces rather than sticking to using proper intuition screens (naughty!), don't really like promotion at all.

Once you are satisfied that all the normal


The first window you should peruse. Look at all those ScreenModes!
$>$
software you tend to run works OK under Retina's aegis, you start to want to play about a bit with the programs that come with Retina.

There's a whole bundle of stuff to look at. First up is the rather cryptic MakeRACE program. It has a massive six and a half pages of manual devoted to it and is an animation creation tool.

It can create anims in 8-, 16- or 24 -bit and will automatically dither your frames down to the required number of colours using the Floyd-Steinberg technique.

## METHODS

Personally, I would rather have seen it use the Random method as used in ADPro, which stays in the same place every frame giving you less deltas than Floyd-Steinberg.

As with the rest of Retina's software, MakeRACE seems over-complex, but its complexity ensures that you will be able to create the best possible animations with it.

Anims that are created with MakeRACE can also have a soundtrack applied to them which can be in 8SVX format or MacroSystem's own Toccata or MaestroPro formats for 16 -bit sound quality.
Once the animation has been created (a rather drawn-out process even on a 4000) you will need to load one of RACE's ancillary programs, PlayRACE or CopyRACE.

PlayRACE plays back the animation from

> Uhat else is out there?

RAM and CopyRACE does the same but from hard disk.

Next up is AnCoS Jr. which is a sort-of - Retina version of FRED the frame editor that comes with ADPro.

No graphics card worth its salt is without some sort of picture viewer and Retina is no exception. If you own a copy of ImageMaster or ADPro the installer will load viewers for those programs onto your hard disk.

However, there is also a standalone file viewer that, thanks to Retina's multipic.library (a sort of Universal loader used by all the Retina software), will show files in a wide range of formats including all the IFF variants, VLab (obviously!), BMP and JPEG amongst others.

It has an Appwindow interface allowing you to just drag and drop picture icons onto its window to show them. It can also be run from the Shell and thus is suitable for integration into file managers like Directory Opus or DiskMaster2.

## TWEAKING

In case you weren't confused enough by RetinaScreenMode and RetinaEmu, we now come to a little utility called DefineMonitor that allows you to tweak the screenmodes so that they fit nicely on your monitor.

Once you have messed around with them all, you can then append your newlytweaked list to the original list, resulting in twice as many screenmodes to choose from!
To finish off the complement of programs, there is a Retina screen blanker that doesn't do anything interesting like putting

There is a wide range of graphics cards available for the Amiga, from AVideo and DCTV through to Harlequin and G2's Imagica system, but probably of most interest are the socalled RTG cards.

There are three main offerings: the Retina in Zorroll and Zorroll versions, Picasso and the wide variety of EGS boards. I have played with them all in my time and I currently own a Picassoll card.

The reasons for my purchase were that Retina's system for RTG was unwieldy and (unnecessarily) complex and I didn't like the fact that EGS seemed to be happier replacing Intuition rather than complementing it.

Certainly there are boards that give the extra speed that Zorrolll confers, and some have 4 MB of display RAM to allow you higher resolutions, but none is as easy to configure as Picasso and none is as transparent as Picasso when in everyday use.


The third stage in the Krypton Factor...
all 16.7 million colours on the screen one after the other, it just shows a black screer which is obviously the best way to kee, your monitor from burning out - but it is a bit boring.

Retina's Workbench emulation is actual) outstandingly fast once you get past the hassle of setting it all up. Even running a 256 -colour Workbench at $1024 \times 768$ was zippier than a four colour Hi -Res Workbench.

Windows snap open and fill with icons lists of files scroll smoother than a baby's bottom and moving from screen to screen is nigh on instantaneous.

Best of all, MacroSystem have got around the old CHIP RAM-copying problems that plagued the original Retina by doing pretty much everything using Retina Z3's built-in blitter, which leaves your CHIP RAM free for more important things.

## CONCERN

I think it's a shame that a product with such potential should receive such a poor overall review. If MacroSystem had bucked their ideas up a bit and given the Retina Z3 two monitor ports, a decent manual readme's in English as well as German (especially worrying when I recognise words like Achtungl in them), included the video encoder in the price and most importantly, completely revised their system of RTG, I would have been a lot happier.

I first saw the original Retina card as a prototype in Germany in 1992 and was amazed at what MacroSystem were trying to do: a 24 -bit graphics card that could be used with all applications, not just paint packages.

However, it seems that they have not really looked at all the competition that has sprung up around them in the shape of EGS and Picasso which offer better usability with comparable facilities. $\overrightarrow{E \cdot G}$

## SYSTEI ESSETIIIIS <br> RED = Essential BLACK = Recommended



## Part 1

 ver the next six issues I'll be using Devpac to build an Intuition program that is able to display text files. This may not sound like an earth-shattering goal, but you will be learning about a whole range of useful things like using the ASL file requester, detecting menu events and so on and it'll all be done using Release 2 (and upwards) compatible code.I'll be spending quite a bit of time explaining the underlying ideas and first on the agenda are some details about how you actually create an assembly language program.

Step one is to use an editor to prepare something known as a source code file. All this means is that you use a text editor to create a plain ASCII text file containing the program instructions.

Devpac has its own editor and the editor window appears as soon as Devpac starts. Once the program instructions have been written, the next step is to convert the source to the appropriate $680 \times 0$ instructions.

With Devpac there are two ways of doing this but the easiest way, which is ideal for simple programs that involve just one

> If you are keen to join the euer-increasing number of Amiga

successful and this is done by checking that the returned address is non-NULL (ie non-zero).

Function Name: OpenLibrary()
Description: Open an Amiga run-time library
Call Format: base_address=Open Library(library_name, version);
Registers: D0 A1 D0
Arguments: library_name. Address of a null terminated string version - a library version number
Return Value: base_address - the address of the base of the library. If the library cannot be opened a NULL (zero) value is returned.

Function Name: CloseLibrary()
Description: Close an open library
Call Format: CloseLibrary(base_address);
Registers: A1
Arguments: base_address - the library base address
Return Value: None
OpenLibrary() is an Exec library function and having said that the first stage in using a library is to open it by using the Exec OpenLibrary() function - you may be wondering how you open the Exec library in the first place.
The simple answer is that you don't need to - the Exec library base address is permanently available and stored in the long-word at memory location 4 (called AbsExecBase).

Amiga library functions are accessed using indirect addressing coupled with an offset value called a library vector offset (LVO) this identifies which library function is involved.
By convention we place the base address of the library in register a6 so the code for an OpenLibrary() call will look like this:

| move. |
| :--- |
| of Erec Library AbsExecBase,a6 get base address |
| jsr _WoOpenLibrary(a6) make the indi |
| rect subroutine call |

I'll be using a macro called CALLSYS to create
a 'high-level' code unit that I'll use for all library calls. CALLSYS also preserves and reinstates register a6 (so that its contents are not overwritten) but the best news is that it allows the above type of operations to be written in this simple form:

## CALLSYS Opentibrary,_AbsExecBase

Incidentally, LVO values can be acquired in a number of ways but for the moment I will be putting LVO definitions at the start of the programs because this is easiest.

What happens as far as the indirect subroutine call with displacement is concemed is that the address in the specified address register gets added to the specified LVO function call displacement and this produces a destination subroutine address that leads us to the right library function.

It is, of course, necessary to set up the parameters needed by the library function before making the call. If, for example, you look at the OpenLibrary() function box out you'll see that it needs a pointer to a library name in register a1, and a version number in d0.

I'll be setting do to zero because this tells Exec that any library version will do.
Closing a library is just as easy as opening it. You use the same type of indirect subroutine call, but specify the CloseLibrary() function instead:
sove. $1 \quad$ Absexectase, a $6 \quad$ base address of
Erec Library $\quad$ LrocloseLibrary(a6) indirect subroutine
isr
call


> A plan of action

Again I use the CALLSYS macro to do this and write:

CHLLSYS CloseLibrary,_hbsexecBase
At the moment our program is relatively short and consists of these five sections:

1. Equate definitions for constant values used by the program
2. A couple of macros for making library calls.
3. The main program code.
4. A subroutine which handles the library closing operations.
5. Space for library bases, names, and a library name pointer list.

Incidentally, I have included a couple of instructions in the program which make an Intuition DisplayBeep() call so that the program does something visible when run.

- Next month l'll be adding some window opening code to this framework.

We'll be explicitly opening the DOS, graphics, intuition, gadtools, and asl libraries, so the appropriate text strings representing the name of the libraries need to be included in the source via dc.b pseudo-op statements.

Note that NULL (zero) bytes are used at the end of the real text characters to identify the end of the string (a common convention), like this:
libl dc.b 'dos. Lifrary', kuLL
We also need some labelled long word locations to store the base addresses of the libraries we open and here we use the ds.I pseudo-op in this fashion...

## gopsbase ds. 11

As far as opening libraries is concerned we've got to load the address of the Exec library into register a6 then, for each library we wish to open, set up library name pointer and version details before making an OpenLibrary() call.

If the values returned in d0 are not zero then the libraries will all be open. How do we test do to check whether it contains a zero or not? It's easy - we use a move instruction to copy the contents of do to the location that we've set up to hold the library pointer, and as the move occurs the processor's zero flag will be set to reflect the zero/non-zero status of the result.

If the libraries do open successfully we'll need these pointers in order to perform the CloseLibrary() operations before the program terminates.

Because of the number of libraries being opened I have coded the opening and closing operations using loops. Pointers to the first library name and base are
loaded into registers a2 and a3, and d3 is loaded with a count one less than the number of libraries to be opened (this is because the automated dbeq instruction counts down to -1 if the loop goes to completion). Here are the setting up operations:

and here is the corresponding loop code that actually opens all the libraries:

| opentoop rove. 1 | ( 32 ) + , 81 | Libraty mame pointer |
| :---: | :---: | :---: |
| soveg | 40, 00 | any version will |
| ctusys | Opentibrary, | chase |
| nove. 1 | d0, (a3) + | store returned base |
| dbeq | d3,0pentoop |  |

Notice how l've used indirect addressing with autoincrement instructions when copying the library names and returned library base pointers. With a2 for instance, which starts off holding the address of the first library in the list of library names (dos library), this is what happens.

The move.I (a2)+, a1 instruction coples the DOS library name pointer to a1 (this is in readiness for the OpenLbrary() call). After this occurs register a2 is auto incremented by 4 so that a 2 then points to the next library name to be used. The same autoincrement idea is used when storing the returned library bases.

The loop terminates either with do holding the last valid open library pointer and d3 holding -1 or, if an OpenLibrary() call failed, with d0 holding 0 and d3 holding a loop count value between 4 and 0 .

The important point with all this, which you'll see if you trace through the loop code, is that as soon as a library open error occurs the loop quits with register (a3) pointing to the base of the library that failed to open!

To close any previously successfully-opened libraries, all we need to do is use a backward reading loop to collect the valid library pointers already stored in the library base variables.

When you examine the code on the cover disk you'll see that the library closing loop has been written as a subroutine.

This is because the code can be called under two different situations - when the program has run without error and all five libraries need to be closed, or when there has been a library opening error and four or less libraries need to be closed.

By testing the zero flag at the end of the library opening loop we can tell whether an error occurred, so a conditional beq instruction allows us to select either a normal or an error pathway like this:

> beq error_exit

$$
\begin{aligned}
& \text {; here's where the rest of the } \\
& \text {; progran code vill go! }
\end{aligned}
$$

| notast_exit | Lea | Lib_nanes, a3 |
| :---: | :---: | :---: |
| - moveq | 45,d2 | library count |
| jst | Closetibs | close libraries |
| roveq | \$0, dil | clear do for $0 / 5$ |
| rts |  | and tersinate progran |
| error_exit | soveq | A 5 (5-1), 82 |
| sub | d3, 12 |  |
| jst | Clostlibs | close libraries |
| roved | 10,d0 | clear do for 0/\$ |
| rts |  | and terainate progras |

## 1 <br> Would you like to speak a foreign language, or master Maths and Science? <br> Reach the top

LCL Self-tuition courses will open up a whole new world for you or your teenagers, as each course is specifically designed to take beginners up to a recognised level (such as GCSE, A-Level or National Curriculum tests) in a fun but effective way. Everything you are likely to need is included - you don't have to keep buying new packs. Each course includes an incredible 24 programs or tutorials, and even a book.
They are the most comprehensive courses of their type available - and yet amazingly, because of their established volume sales - they cost LESS.
They are so easy-to-use. No complicated setting up or nested menus.
ACT NOW and you will be speaking a foreign language or mastering Maths and Science before you know it. NEW! LCL courses now include INTERACTIVE REAL SPEECH where required - totally essential for languages. Choose from the largest popular range of GCSE courses in the world:


| I |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Ribbons, InkJETS, TOners \& Disks |  |  |  |  |
|  |  |  |  |  |
| Ring us and WE WILL BEAT all other Ribbon prices |  |  |  |  |
| ks \& Disk |  |  | Inkjets, Ink Refills \& T |  |
| DD DS/HD |  |  |  |  |
| ${ }^{20} 12$ Disks |  |  |  |  |
|  |  |  |  |  |
| 100 Disks 250 Disks |   <br> 883  <br> 83  <br> 1288  |  |  |  |
| 200 Disks 50 | ${ }_{5162} 5238$ |  |  |  |
| All Disks Certified 100\% Error Free and INCLUDE FREE Labels. |  |  |  |  |
| Miscellaneous Items |  |  | NotLis |  |
| 3." Disk Cleaning KitParallel Printer Cable (1.8m) Paraliel PriMouse Mat |  |  |  |  |

## All Prices INCLUDE VAT (@ 171/2\%) \& UK Delivery


oficiul Govemwent \& Edwational enders nelicose



## tina Harkett digs deep to bring you the

 latest afferings from the PD scene.$O$This month we discover all kinds of strange delights in the Aladdin's Cave of Public Domain. From horse racing to flying circus acts, you'll find it all within these pages....

## Kung fu Charlies

## Available from: Scribble PD

Disk No GO93
Another simple idea well executed, Kung Fu Charlies is a mixture between a platformer and a beat-em-up. You are a Kung Fu ninja character (as the title suggests!) and must make your way through the levels of plat-

# nightbreed 4, RC月 

Available from: Jorvik Public Domain Disk No SSO315

PD slide shows frequently fall victim of unoriginality, churning out air-brushed pictures of mythical creatures and warriors.

Nightbreed, fortunately, is a breath of fresh air. Although the show is not particularly long, the pictures used are unusual and of high


An unusual choice of pictures provide an interesting slide show quality. Its name is slightly misleading - it has nothing to do with the horror movie or for that matter little to do with the night, with the subjects varying considerably from strange lizards to cacti.
Most of the pictures use reflections in some way to create some brilliant effects. One of the most outstanding is of what looks like a piece of bronze with the outline of a face moulded into it. Other pictures include the Terminator, a car with a beach scene background, and an electric bed - strange!
forms while defeating the many enemy ninja characters that appear.

You are able to carry out quite a few moves to effectively defeat the baddies, such as a crouch down kick, or a straightforward front kick.
Graphically, the game is rather primitive but the cartoon-style characters are quite appealing and reasonably detailed. The amusing Ninja yells add appeal and work well. Two-player mode gives the game another angle - the second player takes the form of a strange clown-looking ninja, and you both take the same side against the ninjas.
This all adds up to some very basic but fun beat-'em-up action. It certainly isn't First Samurai or anything of that quality, far from it in fact, but it does have gameplay and is fun while it lasts... for however long that may be!

Ninja platformer with beat-'em-up type fun



Cheer your horse to the finish

## Steward's Enquiry

Programmed by: Alistair Duncan Available from: Roberta Smith DTP Disk No BGA079

Is your idea of fun yelling and jumping around madly for the first horse past the finishing post? Do you enjoy the excitement of placing your hard-earned cash down at the bookies? If the answer to

These is "yes" but you're strapped for cash, well, fear not because you can have all the fin of the fair, well race track, through Steward's Enquiry and without spending heaps of cash.
The game allows you and up to eight other like-minded gamblers to place as many bets as you want and you also get to take on the role of the owner buying up stables.

Starting off with $£ 3000$ to play with, you can view the stables on offer and decide whether or not to invest $£ 1000$ of it in one. Buying a stable occasionally reaps financial rewards, but at the end of the game whoevers stable has the largest number of wins gets a prize bonus of $£ 5000$.

Once you've got the practicalities of sta-ble-buying over with, you can get onto the fun part of frittering your cash away and placing your bets. Over a maximum of 20 races you can bet away until your money runs out (bankrupt players are excluded from this section).

Simply pick a horse by weighing up the odds, decide how much and take a note of the colour of the rider's jacket (so you'll know which to cheer for, of course!).
The race track continues over two screens so you can't actually see the finishing post. Horses line up for the off and you view the race side-on as the screen scrolls horizontally.

A random event screen sometimes appears before a race and will effect the game in some way - some are helpful some or not.

Another angle to it is the Steward's Enquiry. If more than one horse crosses the finishing line at the same time then a Steward's Enquiry will take place and the computer will decide at random who is the winner.
enemy which enables you to buy more weapons for the next round. Choose from a vast array of ammunition from mega nukes to slingshots. This new version now contains around 60 weapons.

The game looks good with colourful backdrops and clear presentation. Effects such as the hill crumbling away with the force of the hit and the crater maker bombs, for example, look quite spectacular. Sound effects also work well with explosions and bouncing bomb noises going off everywhere!

This is a brilliant title, especially with two or more players, and with this updated version containing new elements, such as save game options and changing the IQ and starting money of the players, it has more depth. Gravity, terrain and the amount of wind can also be altered to vary the game.

Highly recommended.

The enquiry may also decide that the jockey has been mistreating his horse. It would be assumed that he was acting under the owner's instruction and would be penalised.

The game finishes when all races are over or when all players are bankrupt.

This is a brilliant, fun title and although the concept is very basic and the graphics hardly stunning it is great for a laugh, especially if you drag a few friends into the game.


> The Incredible Flying Zambini Bros

## Programmed by: Tom Werber

Available from: Jorvik Public Domain Disk No ANO 217

Although this offering by Tom Werber is nothing complex or particularly ingenious, it is a nice demonstration of how something so simple can work so well.

Drawn in a style similar to Bob Godfrey's Henry's Cat, this animation shows the attempts of the Incredible Flying Zambini Brothers to perform their flying circus tricks.

The comedy is based around the fact that the smallest member of the troupe always ruins the trick. Although none of the members have features or even faces (they are in fact blobs of colours with a vague body shape) they do seem to have a fair amount of character.

They convey their characteristics merely through body size and how they move. The green Zambini brother is the smallest of the bunch and you can't help feeling a certain amount of sympathy for him as he fails all the tricks the others manage so successfully.

This is a surprisingly long animation containing three separate stories. The first is Perilous Parachute Problems and the little green character again falls victim to the trick going wrong - the others safely fall out of the plane and open their parachutes. When it gets to his turn the chute

## Calling all PD libraries

...and individuals with anything remotely worth my while having a peek at. If you want something released as PD, or you're a library with stacks of hot new stuff that you haven't seen reviewed yet, why not drop me a line with a copy, full documentation and everything clearly labelled? I promise I'll at least look at your work.
Tina Hackett, PD Submissions, Amiga Computing, Europa House, Adlington Park, Macclesfield, SK10 4NP.
fails to open and he falls to the ground. As if all this wasn't bad enough, the plane then lands on him!

The other three - Terrible Trapeze Tricks, Traumatic Tightrope Tantrums and Trampoline Trials and Tribulations - all speak for themselves really as to what they're about, with the same outcome of the trick going wrong.

They're all comedy basics but do work well. The jaunty accompanying tune adds to its charm. The line drawings and primary colours look good and the whole thing seems to gel nicely, providing a quality animation of a very reasonable length. Recommended.

# Fatal Morgana RCH 

Coded by: Claw<br>Available from: Jorvik Public Domain Disk No DMO 291

Demos are hardly few and far between these days and with most verging heavily on the mediocre side, it's not surprising

that whenever another demo arrives in the post it's usually met with moans and groans and a cynical chorus of "ha, ha spinning cubes again."

So on the rare occasion we get something a little different then it is a joyous day in the Amiga Computing offices.

Fatal Morgana, brought to us by Tragedy, is a mixture of the two - it would have been a pretty fine demo but it was spoilt with the obligatory spinning cube sequence.

Starting off with your usual ravey tune and swirling zig zag patterns, the demo then moves on to a circle orbiting a smaller circle. Not mind-blowing stuff admittedly, but still rather effective.

The next image is of a woman dancing in front of a moving flowery backdrop. The dancing looks smooth and flowing and works well with the rave tune.

Next up is a stippled picture of a swans head and then the swan starts raving yes, a raving swan - unusual and creative.

Things then get really wild when the sequence repeats itself, the music speeds up and the images gets faster, flashing across the screen at a fair rate. Everything builds up into a crescendo and then it's all over, well almost.

After recovering from all this mind-warping stuff you are treated to an animation of the headbanging' duo, Beavis and Butthead. The usual antics of the twosome are included, such as a few seconds of headbanging and their manic laughs. It's all finished off with one of them stating "This demo sucks."

Well, it doesn't, especially if you like Beavis and Butthead and fast rave demos.

## Assassing Cames Disk

## Available from: PD-SOFT Disk No ASS169

This three game compilation includes the titles, Pee Bee, Turbo Hockey and Brain Damage. The first is a shoot-'em-up which revolves round the bee twins. Twee aspect aside though, this isn't a bad little title that

# The Hainy Day Disk 

Programmed by: Gina Mears<br>Available from: F1 Licenceware

Gina Mears seems to have a knack for creating great disk compilations for children. The last one I had the pleasure of reviewing was her Pick ' N ' Stick game - an idea similar to Fuzzy Felts - and this one is of the same high standard.

Included is a Word Search game where the child must find the words relating to a particular topic hidden in a scramble of letters. These have been well-chosen and would all be familiar to a child.
The Scribble Pad is basically a blank note pad which enables the child to create as many pictures as they like - it saves searching round for scrap paper and the messy paints every time.

Different thicknesses of pens are available and a variety of shapes can be used to create the patterns. Different colours can also be chosen.

The next section is a collection of stories including Henrietta Hen, Frank Frog, Bertie Bee and Ferdie Frog. These short stories are accompanied with some nice


The painting book part of the program
is bound to entertain a young child
illustrations. They are quite short and are easy enough for a young child to read.

Another part to this disk is the colouring-in section. This is your usual line drawings left blank for the child to colour in using the paint box icons at the top of the screen.

Overall this is a great, entertaining disk ideal for a young child.

involves flying along a vertically scrolling screen shooting baddies.

The levels are based rather nicely around themes. For example, the backdrops are made up of sweets and the baddies are lollies and the like.

As well as avoiding the nasties and firing at them, you have to find your way through small gaps in the platforms. This is more difficult than it sounds as the screen is scrolling vertically and quite fast - if it touches then it causes damage.

Although this is fairly basic gameplay the graphics are of a particularly high quality. Many colours have been used to create the background, making for a very professional-looking game indeed.

Turbo Hockey is another fairly simple idea but works well. Two-players compete on an ice rink with goals at either end and the idea is to get control of the puck and blast it past your opponent's goal. It won't astound with great graphics or anything but it is very playable.

The third, and by far the best, is Brain Damage, a puzzler which requires you to move the various objects into a pattern around a chequered board.
The board consists of $8 \times 8$ squares, some containing objects that are moved around using the arrows surrounding the board. This makes it incredibly difficult as you have to move an entire row or column.

You can set the difficulty from Moronic to Average. (The registered version goes on to include more levels plus an Ingenious stage - it also contains a save and load game option.)

The more difficult the level, the less time you have to complete the puzzle in and the less moves it must be done in. The game is also affected by being able to Rotate, Transform and Bomb certain parts of the pattern.

This is all very taxing and if Rubics

Cubes and the like didn't appeal then steer clear! This is a more sophisticated brain teaser-style game that requires a great deal of logical thought. A very entertaining puzzler.

## lay your hands

 on meAsa Margetts
81 Carlford Close, Martlesham Heath, Ipswich, Suffolk IP5 7TA Tel: 0473626954

## Scribble PD

2 Hillside Cottages, Burstall IP8 3DY
Roberta Smith DTP
190 Falloden Way, Hampstead Garden Suburb, London NW11 6JE

Tel: 081-455 1626
Jorvik Public Domain
22 Hemlock Avenue, York YO3 9DG Tel: 0904624637
PD-SOFT
1 Bryant Avenue, Southend-on-Sea, Essex SS1 2YD Tel: 0702617123

## Craig Holmes Non-Profit PD

23 Rocester Avenue, Wednesfield, Wolverhampton, West Midlands

WV11 3AU (send a cheque for £1.50 made payable to C Holmes)

## F1 Licenceware

31 Wellington Rd, Exeter, Devon EX2 9DU Tel: 0392493580

# minl <br> THE PERFECT ALL-IN PACKAGE FOR YOUR HOME OR BUSINESS 



- A professional WORDPROCESSOR with powerful graphics capabilities and a 50,000 word spell checker. Ideal for a wide variety of correspondence and official documents.
- A versatile DATABASE which is simple to use and powerful enough to deal with anything from basic address book functions to club membership lists and business records.
- A flexible SPREADSHEET with more than 50 functions, simplifying the most complex domestic monthly budgets or commercial cash flow forecasts.
- A supremely friendly DISC MANAGER to make using your Amiga as painless a task as possible.
- Incredible GRAPHICS with more than 18 types of graphs and charts available to brighten up your presentations or make your month by month financial situation as easy to appreciate as possible. You can even make use of eye-catching 3D effects!



PICASSO II
PICASSO II is a graphics card with a difference, offering true retargetable graphics on any Zorro based Amiga. The installation is quick and simple. Just plug in the card, connect the cables and run a fully automatic install script. You will then find new Picasso resolutions available from the standard preferences ScreenModes program, all useable by OS friendly programs. The new CHUNKY option offers incredible speed with a 256 Workbench which is many times faster than AGA! Picasso Il will intercept any program on it's first run, allowing you to tests it's compatibility and set your preferred screen choice thereafter. All screens are stored in Fast RAM, hence removing the 2 Mb Chip RAM limitation. Total screen configuration is provided through PicassoMode, which allows the creation of custom screens quickly and simply. Picasso II comes with TVPaint Junior and drivers for ImageFX, AdPro ImageMaster, Real 3D and GIF, IFF, JPEG and MPEG viewers. Also included is the MainActor animation program, and a TVPaint 2.0 option is also available.

$$
\begin{array}{ll}
\text { PICASSO II 2Mb } & £ 349.95 \\
\text { With TU PRINT 2 } & £ 499.95
\end{array}
$$



## PABLO ENCODER

PABLO is the new Video Encoder option for Picasso II. It offers the user two additional video ports, one standard Composite Sync Signal, and one S-VHS (Y-C) compatible port. All PAL compatible video devices can be plugged into Pablo, such as a colour TV or a video recorder. To Genlock, a Time Base Corrector is required. There are five resolutions available, these being $320 \times 256,320 \times 512,640 \times 256,640 \times 512$ and $768 \times 576$ in all colour depths including HighColour and TrueColour! A protective circuit integrated into Pablo ensures that no modes with more than a 15 KHz line frequency can be routed through Pablo so you can safely switch to higher resolutions for your normal computer display. Pablo is supplied with all cables/adapters, Animation examples and MainActor Professional.
PABLO ENCODER
£ 149.95

## MAINACTOR PROFESSIONAL

MainActor Professional is a modular animation package for the Amiga. It features intelligent caching, so if you don't have enough RAM you can play animations from any device i.e. play/edit/create a 400 Mb animation on a 2 Mb Amiga. With OS3. x you will get added speed as well as animations in a resizeable, scrollable window with colours adjusted to screen attributes. Sound support allows you to associate sound effects to every frame. There are animation loaders for Real-3D, IFFAnim3, IFF-AnimJ, Picasso, AVI, GIF, FLI, FLC and DL. There is also an external player, MainView plus lots more. You can play all your animations directly via the Picasso II board (which fly in Chunky pixel model)

$$
\text { MAINACTOR PROFESSIONAL \& } 49.95
$$



Emplant is a very special product. It is the only hardware that offers multiple multi-tasking emulations from a single board. Here are some of the features of Emplant. O Compatible with all Zorro IIIII Amiga's.
Utrilises Amiga memory, AmigaDOS devices, paralielvserial ports and Stereo sound capabilities.
O Extensive Video Driver support (ECS/AGA, Picasso Ill
Piccolo, Retina/Z3, Merlin, EGS, OpalVision, Rainbow IMII, etc.) including $16,256,65 \mathrm{~K} \& 16.8$ mīion colour displays. O SCSI Support (Hard Disk, Scanners, SJOvest CD-AOM etc.) MACINTOSH EMULATION
The generic Mac emulation will perform as a Quadra 900 on a 68040 Amiga, and a llci on a 68030 Amiga All known software runs. The Mac emulation supports System $6 . x / 7 . x$, Hard drives, AmigaDOS partitions, Virtual screens, Stereo sound, File transfer, Printers, Modems, MIDI, SCSI peripherals, AppleTalk etc. Floppy support includes Emplant, Amax, IBM $720 \mathrm{~K} / 1.44 \mathrm{Mb}$. Mac 800K (via AMIA) and 1.44 Mb .


IBM PC EMULATION
The new IBM module is a true 486DX compatible emulation, including CPU, MMU and FPU. It will support normal/protected modes and run Windows 3.x, DOS 6.x, OS/2, application and leisure software.
Speed is dependant upon your 68xxx processor and is gained from a combination of custom logic, software and the Amiga! The emulation will offer colour VGA on AGA machines, and colour SVGA with a supported graphics card such as Picasso II. SoundBlaster Pro support is built in too. Please call for availability.

EMPLANT BASIC
£299.95
EMPLANT OPTION A (AppieTaik/Serial ports) EMPLANT OPTION B (SCSI interface) EMPLANT DELUXE (Options A and B) EMPLANT IBM MODULE (Call for avainability) AMIA (AMIGA-MAC INTERFACE ADAPTER) AJows the connection of a real 800 K Mac drive £349.95 £ 349.95 £499.95 \& 99.95 £ 59.95

## SPECIAL SUMMER OFFER

## DEDUCT

## $£ 50.00$

WHEN YOU ORDER ANY EMPLANT BOARD WITH A PICASSO II 2Mb CARD!!

|  their parliflports. Liana will work with all amiga's and it's network driver is completely SANA-I) (standard software interface for network plfocols of Commodoref compatible. This means alt networking packages using SANA-II will work with lifna (e.g. Commodore's.TCP/IP package release $Z$ ENVOY). Liana is supplied complete with the Commodore networking package ENVor, which offers FileSystem import and export, networkprinting and multi-user suppert ogether with ary easy installation and configuration procedure. <br> LIANA NETUORK <br> L 59.95 |
| :---: |
|  |  |

## BBS

Please try our Free support BBS : 0908310208 !!!!!

# OS 3.1 

## KICKSTAPT AND MDBRKBENCHI!!

THE FULLY LICENSED COMMODORE OS 3.1 RELEASE IS NOW AVAILABLE! Each pack comprises ROM(s), Disk set and English manuals. The following versions are available A500, A1500 and A2000
$£ 84.95$
A3000 and A4000 (inc. 3000/4000Tower) £ 94.95 Update today and breath new life into your machine! 2/3000 owners - 256 colour Workbench with Picasso III Picasso II $2 \mathrm{Mb}+$ OS3. 12000
$£ 419.95$
Picasso II $2 \mathrm{Mb}+$ OS3. $13 / 4000$
£429.95 With the above bundles, you can run all OS friendly software with 256 colour support, and use the new super-fast 256 colour CHUNKY PIXEL Workbench! KEEP YOUR AMIGA UP TO DATE II

CD-ROM OPTIONS
\& P阴OTOWNOR
PhotoWor $X$ is the only Kodak ${ }^{\text {TM }}$ licensed Photo-CD software for the Amiga. With any of the following CDROMs you can incorporate high quality images (and your own photographs) into DTP and support a host of CD based software. PhotoWorX features includes
Allows loading of a images (Memory dependant).
Supports all Amiga resolutions (including AGA)
O Supports the Picasso II, Retina and EGS boards.
O Provides numerous image-processing features:
Detail Magnilying, Colour Corrections, Mirror, etc.
Saves in any Amiga IFF file format (16 to 24 bit colour),

- Prints to all Amiga compatible printers, including colour.

O Comes complete with manual and a Photo-CD.
PhotoWorX
£89.95
With CD-ROM Drive
PhotoWorX + Toshiba XM 4101
$£ 244.95$
PhotoWorX + Mitsumi FX 001 D
£194.95

## Full CD-ROM Solutions

For A1500, A2000, A3000 \& A4000
PhotoWorX + Toshiba XM 4101 + Oktagon SCSI controller £349.95
PhotoWorX + Mitsumi FX OO1D + Tandem CDMDE controller £249.95
For A600 \& A1200
PhotoWorX + CD1200 controller + Mitsumi FX 001D £249.95


X-CALIBUR
$X-C A L I B \cup R$ is a uniquely designed accelerator and RAM expansion piggy back unit for the A4000/040 which does not use a precious Zorro slot. It has the capacity to hold on-board 128 Mb of SIMMS (Standard 72-pin type as found on the A4000). With it's innovative memory design, the X-Calibur out performs the regular A4000/040 memory access by $400 \%$ at 25 MHz ! This translates to an average of around $80 \%$ and disk access improvement of $10-20 \%$. You can use the actual memory module of the A4000/040 (only Fast RAM) and gain the speed instantly. Faster upgrades ( 40 MHz and a 68060 version) are planned in the future. Fitting service available. Fully compatible with Emplant for a world beating Mac/IBM emulation engine!
h-CALIBUR
£499.95

## BLITTERSOFT. 40 COLLEY HILL, BRADWELL,

MILTON KEYNES, BUCKS. MK13 9DB
TEL: 0908220196 FAX: 0908220196 BBS : 0908310208
Internet on : paul@bsoft.demon.co.uk

## n

## $\mu$

## Your essential guide to the world of Amiga gaming

## Under the sustem's spotlight this month

## Elfmania <br> Wild Cup Soccer <br> 104 <br> Kick Off 3 <br> Quik - Thunder Rabbit 110

Stich it to 'em
120 The system team rounds up and reviews the best joysticks money can buy

## Dut of Character

Why do some game characters become house-hold names? System takes a look at character design
(114) Theme Park A quick look at Bullirog's highly original business sim
116 Sim [ity FIO Maxis hit the Amiga with an updated version of the classic "God" game

Sierra return with the sixth fairy-tale installment of the King's Quest series



Coming in October is All Terrain Racing, created by the guys who were responsible for Body Blows, Qwak and Nitro

## Turbo-powered Team 17

The Wakefield-based software house is lining up a whole host of releases which will be coming your way over the next few months. The first is the budget re-release of Overdrive. Featuring 20 circuits, power-ups and a serial link-up for two player challenges, this budget release, at $£ 10.99$, is sure to be an essential buy.
Team 17 also has an original full-price release due in October. All Terrain Racing promises to be packed full of bump ' $n$ ' collide racing mayhem. The graphics are by Danny Burke of Body Blows fame, while the coding is being handled
by Jamie Woodhouse, the geezer behind Qwak and Nitro.

All Terrain Racing features three different vehicles and a simultaneous two-player battle mode. The game will be available on the A500/600, A1200 and the CD32.

System have also managed to obtain screenshots of Team 17's forthcoming shoot-'em-up sequel spectacular, Super Stardust. The game, scheduled for release in September, has been completely re-designed and now features 256 colour graphics.


## Daze on the ball

On The Ball is the UK version of an extraordinarily successful German football game called Anstoss, which has been at the top of the German software charts for practically the whole of this year.

A development team of 20 took on the task of creating the game, including such features as live running commentary and a four-player mode.

One of the key factors of On The Ball is its strong graphical presentation. The animated TV-style coverage was produced by two experienced illustrators from German television.

Together they spent over three months illustrating the action sequences. Over 420 individual animations sequences, including shots at goal, corners, penalties, fouls and goals, all viewed from different angles were produced.

The final result is over 45 minutes of "live" animated action, compressed onto one disk so that no disk swapping is needed in the middle of a match.

On The Ball - World Cup Edition should be out by the time you read this, while the League Edition will be brought out at the end of August.

This will be completely updated for the new season and features the full Premier League and the First Division. The price is still unconfirmed, but Daze says it will be around the $£ 29.99$ mark.

## Going for goal!

The World Cup is now over and I bet you've been as surprised as System at the amount of football games sitting on the shop shelves. You'll not have been able to afford all of them, but Empire have come up with what is surely the best-ever football compilation pack.

Empire World Cup Year '94 contains Sensible Soccer, Goal, Championship Manager '93 (plus it's '94 data disk) and Striker. For football aficionados this is surely a compilation sent from heaven, but I suppose the majority of games players have got at least one out of the four games.

If you haven't got any of these games then this is your lucky day, because Empire World Cup Year ' 94 costs only $£ 25.99$ which works out at about $£ 6.50$ per game.


## A dip in the Ocean

Electronic Arts has just signed a deal with Ocean that enables the Manchester-based software house to bring many of EA's current console range of games to the Amiga.

The full line-up includes Skitchin' the recent Road Rash variation on
roller skate - Jungle Strike - the sequel to the highly popular Desert Strike - NHL Hockey, Mutant League Hockey, PGA European Tour and Shaq Fu, the forthcoming beat-'em-up based around the NBA superstar, Shaquille O'Neal.


A screenshot of the breath-taking Super Stardust and I guarantee that your jaw will drop open when you see this little baby in motion


If you're feelling the need for speed then Overdrive, Team 17's next budget release, should interest you


## The gorgeous Gremin goody bag giveavvay competition



Those incredibly generous people at Gremlin Graphics, responsible for such amazing game titles as Lotus and Zool, have all clubbed together and given System ten goody bags.
These bags include all manner of Gremlin paraphernalia such as stickers, badges and T-Shirts, but, more importantly, they contain a brand spanking new copy of Gremlin's brilliant strategy space game, K240. All you have to do to win one of these fine Gremlin goody bags is answer the three questions correctly on the competition form, scribble your name and address down and send it into:

System Gremlin Goody Bag Giveaway, Amiga Computing Europress Publications, Europa House Adlington Park, Macclesfield SK 10 4NP


> Name:
> Address:
> -
$\qquad$

## Q1. Which of these games

 was not created by Gremlin?Lotus 3
$\square$ Hero Quest 2
$\square$ Banshee

## Q2. Which dimension

 was Gremlin's Zool from?
## $\square$ Third

$\square$ Nth
$\square$ Fifth

## Q3. $K$ is the symbol for which element?

$\square$ Potassium
$\square$ Iron
$\square$ Carbon

The closing date for the competition is: 25 th August 1994

##  ustem echnolagy

## The world of computers is ever-

 changing and System is here to keep you aware of what else is happening throughout the industry.Q. Phillips has revealed its new re-styled, lower-priced CD-i unit. Called the CD-i 450 and aimed specifically at the games market, the machine made its debut at the Summer CES show in Chicago and is now on sale in the US. The European launch of the machine is scheduled for September, but Phillips have refused to comment, as yet, on a UK price for the CD- 450 .

- Nintendo has rejected the name "Project Reality" for a new official monicker of Nintendo Ultra 64. They stressed that Project Reality was always just a code-name for the forthcoming machine. Nintendo has also signed up Acclaim as the first official third-party publisher for the machine, which is being produced in conjuction with US computer hardware firm Silicon Graphics.

- Although only 2000 units have been introduced into the United Kingdom, the Jaguar has become an instant hit and sold out of stocks in "most places". The limited stocks have been allocated exclusively to independents through SDL, with fellow distributor ZCL and chainstore Rumbelows expected to take deliveries of Atari's machine very soon.
- Panasonic's plan to launch the 3D0 in the UK at under $£ 400$ could be under threat from an EC import duty of 14 per cent Panasonic are lobbying in Brussels to overturn the machine's classification as a video cassette recorder, which carries the awful tariff.

With the UK's VAT rate of 17.5 per cent. Panasonic is facing a total tax charge of 30 per cent. The company wants to launch at $£ 399$ but is, at the moment, avoiding a final decision.


Dut of touch with the latest Amiga games scene? These elite selections from the last few months should put you back on the right track

## Beneath a Steel Sky

Revolution Software has surpassed the amazing Lure of the Temptress with their latest adventure and I congratulate them on making such a fine adventure game.

Everything about it just oozes quality and over the last couple of weeks it's been a real
pleasure to play. The graphics are good enough to marry and have children with and the gameplay and actual storyline are firstrate. If it doesn't go to the top of the software charts then I think there is simply no justice in this world.

## Darkmere

This must surely rate as one of the best 3D isometric adventures ever to appear on the Amiga. It possesses a haunting style that is completely unique and seldom achieved in many computer titles.
Darkmere really is a pretty classy title. The
graphics create such a mood that it gives the adventure an immediate head start over everything else it competes against.

It's contained in a huge playing area and includes objectives and puzzles that will hold your attention for a good while.

## Arcade Pool

Arcade Pool can now be added to the list of Team 17 budget successes.

The game may have very nice graphics, but it's in the playability department where it excels.

There are so many different game styles

## James

Highly original it might not be, but fans of the previous games and platform lovers will be absolutely besotted with the third instalment. For sheer enjoyment and lastability, you'd have to go far to find a better platform
that you'd be hard pressed to become bored with this piece.

For just under a tenner it is an amazing bargain, especially when you consider that it has actually been in development longer than most full-price games.

## Pond 3

game than Millennium's tasty third fishy adventure. If you're yearning for some fast, frenetic platform jumping fun, then I suggest you splash your cash on James Pond 3. You will not regret it!

## Benefactor

Benefactor is the best thing Psygnosis has released in a long time. It feels like a montage of Flashback and Psygnosis' very own genocidal pets, the Lemmings. Both the graphics and sound have been implemented very well. The variety of both location and puzzle aspect of Benefactor make it an engrossing challenge.

Benefactor is the type of title that will keep the most dextrous platform freaks and puzzle lovers alike twiddling well into the wee hours.


## Banshee



I do like this game and the weirdest bit is, I've never been a fan of shoot-'em-ups! They usually bore me to bits, but Banshee has that elusive quality that drags you in. Each level demands new challenges which are genuinely tough, and the learning curve is just right.

This is an intense and extremely satisfying game that should tempt any games fan with an ounce of adrenaline in their veins. The Harvey Keitel of shoot-'em-ups.

## The scores on the doors

## System has a dififerent storing system than any

 of our competitars, so before you continue reating the mag, glance at the worts below t 0 find out exactly how it warks.I'm sure many of you are now familiar with our new scoring system, but for those reading Amiga Computing for the first time and those who might have forgotten exactly how it works, here is our guide to the System scoring, err system.
In our opinion, review scores have lost their context as a percentage; some products receiving scores which were only a few percentage short of being the "perfect" game, when in truth they were only marginally above average.

OK, so the scores might seem unnaturally low at first, but that's only because other scoring systems tend to be on the high side and perhaps not as comprehensive or honest as they could be.

In the long run you'll receive a more concise and reader-orientated review that's geared towards the consumer.
$0-20$ This is given to the lowest of the low
21-30 An all-round poor game that may have a single saving grace

31-40 Just below the average, perhaps let down by a few indiscretions.

41-55 Games of this score are roughly average with 50 being a perfectly average score.

56-66 This is an above average game and is worth buying. For this reason it would be awarded the BRONZE award.


67-77 A game of high quality that you as a reviewer would have no reservation in recommending. Anything of this ilk would be awarded the SILVER award.

78-89 A brilliant title. Definitely worth buying and almost the definitive of its kind. This type of game would receive the GOLD award.


90-100 The best in its genre. This benchmark title receives the PLATINUM title.


## AMOS-The ultimate programming tool



## Easy AMOS

- An ultra-friendly easy-touse beginners' guide to programming.
- Helps you create impressive graphics, scroll text and add music to your creations.



## AMOS Professional

- Essential for the more experienced programmer.
- Vastly enhanced version of the original AMOS.
- Includes 650 page manual to get you started.



## AMOS Pro. Compiler

- Gives your creations a kickstart
- Simple to use - compiles in seconds.
- Includes latest update to AMOS Professional

Write programs, create games, produce impressive graphical effects, scroll text, the list is endless... If you're a complete beginner or an advanced programmer, AMOS is for you.

## Your AMOS Specialist Dealer



To check compatibility, select an AMOS product from the left hand column and read across.
To find out more about AMOS telephone
Europress Software on 0625859333


## elele <br> beat the on＝



Are you tired of running around the ford＇s
of Seandinavia like a headless chichen？
Well，in that case read on for some
welenme relief of the Heimdall 2 kind

You start as Heimdall himself in the Hall of Worlds，so the first thing you should do is switch to Ursha and walk over to the bow and arrow．
After you＇ve equipped her with the bow and arrow，remember to use Ursha especially on dan－ gerous tasks because if she perishes you can continue， whereas if Heimdall is killed the game is over．
Move to the only entrance that darkens when you


The first of five pieces of the Ro＇Geld is discovered
approach it and begin the search for the first part of the quest．

Once through you＇ll see two obelisks．If you release an arrow at the obelisks then one of the following will occur．The one on the right materialises a Hakrat， which will only add to the difficulty of your quest． Conversely，the obelisk on the left reveals the rainbow bridge onto which you can walk．

At Rurick＇s village，the first thing to do is to enter all the huts and search for equipment．On entering a building that looks like a store room，open the box towards the rear of the room and you will find the circlet inside．

After this，proceed towards Rurick＇s hut and speak to him．He＇ll tell you about Eadric and ask for your help．From here，leave Rurick＇s village，head to the map screen and steer a course for Eadric＇s village．

Go to Eadric and offer him the circlet as a peace offering．He＇ll give you a letter to return to Rurick， confirming the peace．Now，enter the pub for some intoxicating conversation about your quest，and re－live a moment from the original Heimdall game．

Return to Rurick＇s village and give him the letter offering peace．In return he＇ll give you a pass which will allow you entry past the guard into the king＇s castle．

Give the guard the pass and enter the castle．Once you＇re in the main hall take the right exit and enter the kitchen．Climb the stairway and talk to the serving girl－she＇ll tell you what to do next．

Follow her instructions and go to the corridor with the large picture whose eyes follow you．Push the painting and the door should slide back to reveal a passageway．

Go into the bedroom，collect the rune book and press a fairly well－hidden button on the right－hand side of the four－poster bed．The button will release a catch which opens a secret hatch in the wall that
contains a signet ring．
Take the ring and go to the guard who is blocking access to the stairway．Give him the ring as formal identification of the King and walk down the stairs．A Hakrat，who seems especially awkward to kill，waits in the next location．

At this point in the proceedings you have two choices－attempt to kill the Hakrat using some cun－ ning，or travel to the Giant＇s Isle and use a little bit of cheating to strengthen Heimdall．

If you wish to use this technique，jump ahead to the sub－section dedicated to the Giant＇s Isle．The cun－ ning way to defeat the Hakrat is to fire an arrow into

| Ah，you＇ve Rume＂d it |  |
| :---: | :---: |
| MPNF | Slow enemy |
| Y 1 | Shield 1 |
| BPF | Cure poison |
| S＾ | Fire bolt |
| $B$ | Lesser heal |
| $B \neq 1$ | Mass heal |
| BM | Heal |
| YF | PF poison |
| 父体 | Disintegrate |
| くヘキ | Fireball |
| イッら | Shield 2 |
| ＊PF | Make invisible |
| \％$<$ | PF fire |

the room beyond. Hopefully he'll follow it in, and, as the room is booby trapped, he'll be minced.

However, if for some reason your arrows miss and he bears down on you into a position where he'll never follow the arrow, you'll have to slug it out with him, and that could be dodgy.

Once you've killed him (by whatever means), approach the two prisoners. One of them is the King's brother - he'll give you a letter to take to the King.

When you visit the King's chamber his adviser will vanish as he realises that his deception has been uncovered. At the same time a forcefield blocking access to a passage at the top of the stairs will disappear.

A little warning - don't drink the bottle of beer that's left on top of the King's table as it's poisoned.

Climb the stairs and enter the next location. You'll see that the path is missing and access is blocked. Shooting your arrows into the three holes will fill the path and allow access to the next room.

Touching the statue releases a skull which is the first piece of the Ro'Geld. Leave the island and sail to the Fisherman's Isle.

Once on the Fisherman's Isle, enter the fisherman's hut and pick up all the objects available. Walk to the rear of the hut and open the wardrobe door. You'll


## H e <br> . mdall <br> 

discover the fisherman who'll tell you about the plight of his daughter.

At Loki's shrine walk in to the portal when it's the correct colour - the fisherman will inform you which is best, so pay attention to what he says.
When you've rescued his daughter she will give you a talisman which will grant you access to Utgard, the second world.

Once in Utgard, on the Dwarven Isle, speak to the dying man at the foreground of the battlefield and he will tell you to meet him in the half-world. Shoot an arrow into the circle of fire by the standing stones and you'll enter the half-world.

Return to the man and talk to him again and he will tell you how to get into the castle using his armour and will give you a letter. Go back to the circle and shoot another arrow into the fire - you'll now be back in the normal world.

## PROTECTION

Walk to where the man lies and pick up the armour that sits by his side. Put it on and enter the castle. Find the King's chambers and give him the letter. In return the King will give you another letter.

Search the castle and pick up the Rainbow ring which is on a table at the top of the stairs. Find the shop and buy yourself the large axe as it's the best weapon available presently for hand-to-hand combat

Leave the castle via the main lobby's far-right exit, rather than the one which leads back to the battlefield, and you'll reach the Utgard map.

If you read the earlier part of this guide then

you'll remember that I mentioned travelling to Giant's Isle to strengthen Heimdall.

Being extremely brave you must attack the giants that guard the rooms. They are very difficult to kill, but do uprate your attack strength.

At this stage of the game your attack strength
should be about nine or ten, but by continually striking blows with the axe at the giant you can eventually reach the highest achievable strength of 99 .

If at any point your own health bar drops to a risky level, leave to the safety of the previous room (he won't follow) and cast a healing spell on yourself.

1Anyway, you should benefit from this extra muscle from here on. To get past the Giant's Isle you must first enter the ice god's room and fill your flask with water.
Then, go back into the fire god's room and throw the water into the fire - an ice bridge will appear across the water in the ice god's room.
Kill the second Hakrat (be careful, everytime you kill one they return, but you should make mince of them by now with your enhanced brawn) and throw the cygnet ring into the sphere of light.
Be careful when throwing that you get it right, because if you don't the ensuing Hakrat could pick it up.
In the giant's $H Q$, use your dexterity to avoid the fire-balls as you make your way along the path. Once over, push the candle over, pick up the talisman and return to the Hall of World's.


As soon as you journey to the Lost Clan Isle of Utgard 2 you'll be thrown into a cell. Fortunately, there's a piece of bread that has been conveniently left around.

Push the bread and the rat will come over to it. As a token of his gratitude he'll open the cell door for you. Jump into the sewer and follow it to the next location.
Ignore the bottle as it's a booby-trap and proceed into the dwarven King's chamber. Give your letter to him and he'll return the favour and give you yet another letter.
Go down the stairs on the right and take the second piece of the Ro'Geld from the skeleton you saw earlier on the other side of the sewer.


The next plece of the Ro'Geld is recovered


What a Malady - spiky balls

At the Druid's grove speak to the Druid, then speak with the entity that appears. You'll now know a little more about the overall scheme of the game. Find the map screen for Her'Ker'Yn and head for the Dakta village.

When your boat docks at Dalta village ignore the Dakta who stands at the jetty and walk on while this might seem pointless now, it'll be vital when you come to be judged.

Find the armoury and kill the Dakta who is giving the prisoners a hard time. Then, speak to the man who is crafting a sword and he'll give it to you.

Find the pub and kill the Dakta who is sitting around. Then, move on to the next room and kill the two Daktas who are in charge of the village. After the carnage is over, return to the map screen and proceed to the Dakta HQ

Here, your first task is to get passed the spike ball. You can afford to get it wrong a number of times, although it does sap some of your power.

Getting it right calls for good timing because you've to jump down and then slide into the far alcove. Inside the alcove is a switch which, when pressed, makes the steps appear.

## 5

 Enter the room with the mound of gold in it．Now＇s not the time to be greedy－get too close to the gold and you＇ll end up taking a nasty poisoning from something that resides inside the pile．Instead，go to the top of the screen and click on the map on the front of the wall．An entrance will open up for you－go through it．You＇ll have to defeat the mir－ ror image of yourself（careful，he＇s pretty tough）and the Dakta．After this duel to Jeath，take the talisman．
On the ？？？island walk into the cave and wait for the first spider．Don＇t be put off by their size，they can only take about one hit if you＇ve uprated your strength on the Giant＇s isle and are using the sword from the Dakta village．

Once you＇re past the spiders，your next task is to negotiate the tiles．You must use the clues on the scroll to work out the route across them．

You＇ll know you＇ve achieved this as the pile of rocks diminishes as you get closer．Hopefully，when you reach the other side a passage should be visible．
CLUE－The first verse refers to the runic symbols for fire，lightning and healing．


Try getting this design from MFI


Once through，shoot the arrows into the three mouths to fill in the missing pieces of path．Be careful，take your time and avoid the flame．After you＇ve completed the pathway，enter the next room and collect your prize－the next section of the Ro＇Geld．Now return to the Hall of Worlds．
Tal Ker＇Yn is the Hall of the Gods．After talking，enter the room on your first right．This is the death goddesses room－be careful．Firstly，kill Heimdall and Ursha by walking into the statue．

When they are both dead a light will appear and you should be able to walk a dead Heimdall through the light．Take the crown and the holy symbol，then walk the characters out of the room to reincarnate them．


The hall of the gods


| A rume with a view |  |
| :---: | :---: |
| S＊寿 | Fire storm |
| YF＊S | Full combat boost |
| $N \uparrow$ | Call lightning |
| fr | Create object |
| $B 7$ | Mass lesser heal |
| N $\uparrow$ | Lightning bolt |
| ＊＊ | PF magic |
| Br | Extra heal |
| M才啝 | Teleport |
| Bra | Resurrect |
| B才キ | Mass extra heal |
| ＊ | Hall portal |
| YFら | Physical combat boost |
| \％＊s | Magical combat boost |

？ Now，enter the room directly opposite． This is Siri＇s chamber－the god of judge－ ment．Place the crown on his head and await judgement．If you＇ve done as instructed you should be fine．When I said earlier not to kill the Dakta on the jetty，it＇s for this reason．


Oh no，not five years in chokey your honour successfully judged, take the holy symbol and move on. Next enter the air goddesses cloud room which is located to the left of Siri's chamber.

Walk into the lightning to teleport yourself around the room. Pick up the shield, armour and helmet. Discard the helmet on the floor and a bridge should appear. Take the holy symbol and move to the next location.


The oh so floaty hall of Angel Delight.

9Directly across from the air goddesses chamber is the god of the weak. Enter and kill him. Kill the other man that appears and take the holy symbol.
Move to the location at the top left and enter. This is the light goddesses room. Here there is a very tricky tile pattern to complete - be careful as you can wind up dead on this section. Once over, take the holy symbol and leave.

Next move into the top-right location. You should be in a room that resembles a garden. This is the nature god's chamber. To complete this section, take seeds from the three plants.

Drop them on the patch of grass (the plants you need are to the right of the grass with the big red buds) and a holy symbol should appear - take it and leave.

Go to the closed door at the end of the corridor and place the holy symbols on the spaces on the floor. After this, place the shield in front of the
laser and take the final piece of Ro'Geld.
Return to the garden where Ander is and take a further symbol, then return to the Hall of worlds. Journey to the druid's grove on Her'Ker'Rn, give him the holy symbol, then walk through the gate in the trees.

Walk on to the turtles back and take the fire sprite - doing this will get you teleported back to the hall of worlds.

Leave the hall and enter Nifl'Heim. Walk towards the lava onto the fire boat and take the dragons teeth. Walking on, you'll get to Loki's daughter.

There's a secret door to her right and beyond this three heads. Fire arrows at the heads and then walk through the door. Next, place a dragon's tooth on each red circle on the floor. Then walk into the main circle to be teleported.

NOTE - To separate the teeth, pick them up with the left mouse button and separate them with the right button.


[^5]

Walk by the dragon's head and exit the room. Now kill the chief of the Hakrats and go into Loki's room. When you get teleported into Baldur's room, Ander will teleport you back to the Hall of worlds.

Definitely save the game when you get to Sho $\mathrm{Ker}^{\prime} \mathrm{Yn}$. Now, make your way across the tiles and kill the doppleganger Heimdall and Ursha. Walk beyond the gate and you will find a Ro'Geld and the shadow of a character.

To retrieve the Ro'Geld, turn around so that the shadow is facing the Ro'Geld and press fire. Leave this section and into the room where you'll find a Dakta.

Destroy the Dakta, chop the rope on the wall and walk across the wooden plank into Ashok's room. Ashok is invisible so all you can do is throw the Ro'Geld at him.

Then comes the final confrontation with Loki. Defeating him will reward you a place in Valhalla


QUERN HOUSE, MILL COURT, GREAT SHELFORD, CAMBRIDGE CB2 5LD, TEL: 0223844894

## A WHOLE NEW BALL GAME A500/600/1200 • CD32 <br> RELEASE DATE 7th JULY IN THE UK 9599 AVAILABLE AT YOUR RETAILER



Being a less violent game, the coin meter replaces
a life meter if it runs out and you lose the fight


The graphics brilliantly conjure up the atmosphere of the magical land of Muhmulandia


Seeing double - match the same players for a true contest of equal strengths

## Tina Hackett is away with the fairies

## as she dons her pointy ears and

## green jerkin to explore a magical

## land of the elves in

Elfmania.

## STDiYIINE

According to the ancient magical laws of Muhmulandia (the Land of the Elves) whoever challenges the Crown to an Honour Fight, and wins, will gain control of the country. Another, even greater prize also awaits. This is the mystical Dragon Fan which will reveal the secrets of the Universe.

It is a prize worth fighting for but you must give the king reason to fight, and to do this you must hire your own fighters to conquer the Champion Fighters - representatives of the King.

## GRAPHIES

Graphically, Elfmania is absolutely stunning. The attention to detail paid in creating the backdrops is amazing. The scenes actually look three dimensional and with the backgrounds realistically fading into the distance, the overall impression of the setting is well conveyed.

Small details show the care with which the graphiss have been made. For example, in each scene there is an animated object or character in the background. Doors open and spectators blink or move slightly.

Although only subtle details, which at first do go unnoticed, they work well, and unlike some games that try this approach it doesn't go over the top and distract from the gameplay.
$75 \%$



## FIMSHBACK

Many beat-'em-ups have been released for the Amiga and in my mind Body Blows Galactic still reigns supreme. Granted, it may be more violent, but you do have a good choice of moves and characters available and graphically it looks superb.

Mortal Kombat, employing a different style altogether, also has more to it than Elfmania with regards to the action. Elfmania doesn't seem to pack quite the same punch as other games of this nature or give the same sense of satisfaction after a round well fought.

It does have a certain charm though, and if you're looking for a beat-'em-up that has a strategic angle without the blood and guts then it's definitely worth buying.

The detail in the backdrops is stunning Watch this guy - his sword is lethal

## SOUND

Music accompanies the fight scenes but it inn't particularly astounding it's not one of those irritating, grating tunes but it doesn't really conjure up any atmosphere either.

A more fitting choice of soundtrack could have really enhanced the theme of the game and evoked more of an atmosphere.

The usual shouts and yells that fit in with the moves are included and quite realistically convey the action. All the characters have catch phrases which they use at the beginning or end of a fight. These work well and do create the feeling of the tournament spirit.

54\%

 mercy - especially towards elves

## DPINIDN

While it is a nice idea having a 'less violent' beat-'emup by using cute elf characters, it is at times a bit too twee and everything is a bit too nice.

Beat-'em-ups bring out the more aggressive style of playing and when your opponent is a smiling elf it can become rather frustrating. The game redeems itself when you meet the tougher fighters later on and gets the real fighting feel back into it.

More moves would have benefited the game as they are quite limited. All the characters have very similar moves and although this results in a simple control system that is easy to get to grips with, it does become rather repetitive after a while. The special moves also take a fair amount of joystick bashing to get to work. And what can't be forgiven is all the
disk accessing. The game is not hard disk installable and unless you have an extra drive you will be constantly plagued with swapping between disks after each fight.

It's not all bad though, far from it in fact. The game does have a lot going in its favour, such as an artificial intelligence system which means you can't just find one successful move and use it throughout the fight because the computer susses out what you are up to and will avoid your hits.

The control system is easy to get the hang of and the coin idea is excellent. When you hit your opponent he releases coins - you can then hit them back at your opponent to cause additional damage.

Two-player mode is also quite fun and you can choose from all of the six fighters available (in a oneplayer game they only become available when you have earned enough coins). The strategic angle is a
nice touch. The country is divided into 36 counties and via the mapscreen you must conquer six counties in a row to win.

But it's up to you whether to go straight Sivct BRONZE whead and try for the six in a row or build up your cash by defeating the easier opponents and going on to the Bonus Stage.

So, despite its 'cutesy' appearance and limited amount of moves and characters, this is a surprisingly playable and addictive title. The sprites are solid and well animated, the backdrops absolutely superb and the extra features add a novel aspect to it.
ow do you make your new footy
IWTRODUETIDN


And that doesn't mean what you might think game stand out from the bilions of your World Cup USA business? Easy! Insert a fantasy theme, weapons and abolish all the rules.
At least you do if you're the cheeky tinkers who gave us Brutal Sports Football. Polish down your swords, load your guns and take to the pitch for a match that would even make Vinny Jones flinch.

## Millenium's

latest entry in
their Brutal

> Sports series

## Wild

Cu p aims to put

## the violence

back into
footy.
Daniel
Whitehead
kicks it in
the head
with studded haots an.


Well it's more use than an Adidas tracksuit...



A splintering tackle sends blood everywhere

## Crapilcs

Good and bad in this department. The progression from Brutal Sports Footy manifests itself most obviously in the isometric viewpoint, which gives the game a much more fleshed-out feel.

There are also improvements in the addition of pictures of whichever player has control of the ball. The more battered they get, the more their portrait bleeds from its nose and mouth.
Icky, tasteless but very handy when you want to finish off a weakened opponent. The violence is nicely handled as well, with showers of blood coming from every collision, and the occasional decapitation from a well-timed flying tackle giving a new meaning to taking a header.
The downside comes when you try and actually control what is going on. The viewpoint counts against the game when you try and carry out anything even remotely involving precision or skill, as the ball is often lost in the midst of the players.

51\%
of course, you needn't even score to win. Just kill the other team!


The excellent practice mode allows you to perfect your skills. Guide the balls through the cones and shoot


The best tactics to suit the country's playing style is pre-selected but can easily be changed


## SOUND

Abysmal is one of the more polite words I could use about the sound. The poor excuse for a 'crowd noise' is hardly worth mentioning - unless of course to stress how atrocious and annoying it is. There is no cheering when you make a break with the ball and when you actually score it is met with stony silence.

One crowd chant is used throughout which is pretty much indecipherable and is merely a half-hearted mumble. And as for the necessary sound effects that should convince you that you've given the ball a good wallop, or that you've skidded at full pelt down onto the pitch, well they too are a sorry case.

Enough said, I think. Buy it and play with the volume switch down by all means but then you'd miss the essential atmosphere, the build up of match tension, the euphoric cheer of the crowd as your shot hits the goal...
$\square$
$20 \%$


## CRAPHILS

Anco have really developed a good-looking game and with regards to pitch view and sprite size they have come up with a winner. Viewed from a side-on, slightly elevated position, the game is clearly seen with none of the action being missed.

Sprites are in proportion to the ball and the stadium, giving an overall impression of realism. There are some nice animations, such as when a player scores, and the crowd and stadium are very detailed and nicely drawn.

73\%

0
he Kick Off series set new standards in foothall gaming as we knew it. Boasting top-quality graphics and superb playability they amazed the games-playing public.
Then Cambridge-based software house, Sensible Software, came along and started off what can only be described as a fierce battle between these soccer

## legends and their hot new <br> IITRODUCTIOM

 offering, Sen-sible Soccer. And now, when all the wounds are barely healed, the war is about to start up all over again with both companies intending to bombard the shops, promising even bigger and better games. Kick Off 3 goes into battle.

Fouled by foothall? Want to give soccer a sending off? If not read on as Tina Hackett referees the latest contender in the computer foothall warld cup
 though you are dribbling the ball
 others from vision to flair, pace or agility

## FMSHBACK

Would you be at all surprised if I mentioned Goal and Sensible Soccer here? No, you probably won't so l'll go ahead and compare Kick Off 3 to these footy greats.

What more can be said about Goal though, it has everything - atmosphere, playability, great graphics and high addiction levels.

Sensible Soccer again has all this and I'm afraid Kick Off 3 is the sweaty sock among this collection - it doesn't conjure the atmosphere, and it certainly isn't as instantly playable or as addictive.

Playability-wise it does kick some of the other recent releases we've seen lately in to touch though, and if you want to go and fork out on a two independent button joystick then you will get a pretty fine footy game with a wealth of options that could teach other footy games a thing or two.



The goalies aren't really. that hard to beat

## SIMULTIIDX

Kick Off 3 gives you the choice between a fast arcade kickabout or a more realistic simulation. In this mode you will find all the rules included and every aspect of the real game closely adhered to.

Many moves can be achieved, from the usual headers and tackles to the high kicks and after touch, resulting in a satisfying playing style that is close to the real thing.

All the countries involved have their own playing methods and each one brings its unique national character in to the game. Players also have different attributes.
Some may have vision - players who will read the game and do long passes into space whereas a player with high flair will take the ball towards the opposition half instead of passing it and will also tend to shoot at the goal from distance.

Different levels of difficulty can be chosen so both the expert and novice are catered for.

The ball control setting, for instance, determines how easily you can turn with the ball. At international level you'll need a fair amount of experience to do this.

## DPINIIX E5\%

A game of many, many options, Kick Off 3 really is exceptional in this respect. You can change almost anything and unlike some similar titles, these options really do alter the game.

For starters there's a Simulation or Arcade mode, ideal for either the serious followers of soccer or for those wanting a simple kick-about.

There are Game Speed and Ball Control options and a great tactical element is brought in by changing players according to their abilities, deciding formations, and even playing manager by issuing team talks throughout the match. Practice mode comes in very handy for
improving your skills and you can even have an overall assessment made of your abilities. Test your nerve in a penalty shoot-out or practice your dribbling around a set of cones and then shoot at the goal.

The many competitions you can take part in will ensure lasting appeal. Play in an international friendly, the World Cup, Anco Cup or Anco League, or test your playing skills in The Challenge.

You can also replay some of your finer moments and see the match facts to accurately keep track of your progress.

This is a more than proficient footy sim but you should bear in mind that a two independent button joystick is essential and if sound effects are high on your list of priorities then it may not be for you.

## SORTWVARRE


A two disk collection of
various Scala background various Scala backgrou
textures. Wood, paper textures. Wood, paper
etc. Gives your Scala elc. Gives your Scala
production a more protessional finish. Only $£ 6.00$
SCA6-2. SCALA TEXTURES Y. $=2=2 \times \pi=\begin{aligned} & \text { Make your own hardware } \\ & \text { and save fffe. Sound }\end{aligned}$

$\qquad$ samplers, memory expansions, Bridgeboards are all here. Includes complete diagrams. HWP3-I. HARDWARE PROJECTS

|  |  | Forty top quality compugraphic fonts for |
| :---: | :---: | :---: |
|  ney \&s afnew tres En ENT TD man anciy ant inw rave |  |  |
|  |  | use with WB2/3, <br> Pagestream, Wordworth, <br> D Paint 4 etc, etc. |
|  |  | Only $£ 7.00$ |
| PSF7-3, COMPUGRAPHIC FONTS |  |  |
|  |  | Four all time classic board games. Scrabble, Cluedo. Snakes and Ladders, and Monopoly. Great fun for all the family. |
|  |  | All for only $£ 10.00$ |

BDG10-4. BOARD GAMES


XCP35-1. XCOPY PRO.
 Filty stunning AGA images
in 256 colours. All of which will blow your mind. All run as a slideshow for ease of viewing.

Only $£ 15.00$
GRL15-10. BATHING BABES

|  | The complete RSI demo maker, featuring: font editor, vector editor, graphic templates, extra music fonts otc. and a complete tutorial. <br> All for only $£ 15.00$ |
| :---: | :---: |
| RSM15-5, RS | MOMAKER |
|  | Features all you need to crunch, archive \& decrunch any file or disk Includes DMS the Disk masher, Powerpacker, LHA etc. |
|  | Onily $£ 5.00$ |

CRM5-2. CRUNCH MANIA

## Hand

 ver 1000 Top Amiga game cheats on five diska. Ike: Mes ail popular tities Project XOnly $£ 9.00$
came rheats
CHT9-5. 1000 GAME CHEATS

## W.

IODI5-10.IMAGINE ORIECTS

## 

 Andeds of onereal suieesis nowione spern Aine matic scoincour namedo with his excolion Thima game.
QUZ5-2. QUIZ MASTER

|  |  | Run PCXT software on your Amiga. Very easy to use and supports VGA graphics on a humble A1200. A superb package. Makes use of hard drives etc. <br> Only $£ 39.95$ |
| :---: | :---: | :---: |
| = | I |  |
|  |  |  |
|  |  |  |
|  |  |  |

PCT40-1. PCTASK+BOOT

|  |
| :---: | A five disk sot of over 70

top quality for top quality fonts for use with Wordworth 2 or 3 . Simply install them and they're ready to use Only $£ 10.00$
WWF10-5. WORDWORTHFONTS

## 

WPR4-1. WORD PROCESSING
FRE E! ! !
FREE BOX OF TEN BLANK
DISKS WITH EVERY ORDER
OVER $£ 25$


RDS3-1. RANDOM DOT STERE0GRAM
casy to use. Ony
A selection of tools for
degrading your A1200
down to a 500. Very easy
to use, but extromely
etfective way of running
old games etc.
Only $£ 4.00$

## DEG4-2.A1200 DEGRADERS

## Uriunts Tu...T00is A good selection of games,

 demos, music, graphics and tools for use only on the izy to instantly build your AGA software collectionbraphics ofnos oines GA software collection

AGA15-10. A1200 STUFE


BLK5-10. TEN BLANK DISKS


GCB3-1. THE COOK BOOK


Get your finances in order with this excellent package take a closer look ar your where all your money gces every month. every monin. Oniy $£ 7,00$
FIN7-3. FINANCE


A two disk set of extra
backgrounds, lcons etc. for use with Magic Workbench. Requires Onily $£ 5.00$
MWE5-2, MAGIC WB EXTRAS


The most professional volver available on the Amiga, Includes a dictionary of over 58,000 words, and you can add your own.

WEP5-2. WORD FINDER PRO.


EFB2-I. ESSENTIAL FOR BEGINNERS

Double the space available on your hard
disk. If you have an 80meg drive this will give you over 150 meg of available space. Runs silently in the background. Only 55.00
$\square$ EPU5-2. DISK DOUBLER

 | Leaming to type can be a |
| :--- |
| dificult task, but not when |
| you get a copy of our |
| classic typing tutors. |
| Includes three games to |
| help you leam to type. |

TYP3-1. TYPING TUTORS

|  |  |
| :---: | :---: |

COM8-3. NETWORKING
Briliance 2 is the best AGA
paint \& animation package
available on the Amiga.
Supports al avalable
graphics modes. Check
latest magazines for reviews.
Only $£ 89.95$

BRT90-1. BRILLIANCE 2

## All Titles Advertised on these pagees should work on any Amiga unless stated



## $C^{32}$ KEYBOARD <br> Easy connection to your CD32 Allows you to run all CDPD disks. and all games on LOCK' $n$ LOAD etc. ONLY £37.95 + £7.50 Delivery

## OVERSEAS ORDERS

 to each disk ordered, \& 1.00 to each Pace ardered, a minimum of S disks apply. All Oversea COLLECTING DISKS
You are welcome to collect your order, but you are
advised to phonn it through prior to coliection.
Office hours: $9.30 \mathrm{am}-3.30 \mathrm{pme}$ Mon-Sat.

## CD ${ }^{32}$ LINKUP <br> Connect your CD32 to your Amiga <br> for easy transfer of ALL CD Fom disks Complete with leads + CD Rom boot software. <br> CDL $35-1$. Only $£ 34.95+£ 1.00$ P\&P <br> ORDERING BY POST Simply send your order in on an AA page, listing the numbers you require, the total cost, and your same $\&$ address, of if you wish simply mark off ie titles you wish to order. fill in your name elc, and send these papes to tites you wish to order, fill in your name etc, and send these paget to Victoria Rd, Swindos, Willshire, SNI 3BU. <br> ORDERING BY PHONE <br> Call any time between 9.30 Mm \& 5.30 pm Monday to Saturday with your

## Order hotline: 0793490988 Fax: 514187

 definitely the best ever
"Break-out" game
available. Superb AGA
graphics, music and
gameplay make this an gameplay make this an all
time classic. Only $£ 3.00$ MGB3-1. MEGABALL AGA
 Over 100 all time
games including: Breakout, Pacman, Space Invaders, Snakes, loads of puzzle games and more. Only $£ 10.00$

GG10-4. 101 GAMES

| 자N | 9 |
| :---: | :---: |
| \%- | 4 |
| \# $=8$ | B |
| \#\#3 | - |

(possibly) and so are Foothall Icons. Replace old drab workbench icons with these snazzy ful colour tottball team icons.

$\square$ FBI3-1. FOOTBALL ICONS
 A collection of tools for the printer user. Printer drivers, label maker and other useful utilities are included in this great getling started pack.
 Only $£ 8.00$
$\square$ PRT8-4. PRINTER TOOLS Word Processing ${ }^{1}$ Whether you run a smal Database $-\quad$ go computerised then this Spreadsheet Piary superb easy to use integrated package is what you want.

FC7-3. LITTLE OFFICE


ABA is most impressive available. It youtron impress someone, then the is what will do it. Features a brill B.Jorg soundtrack. Only $£ 4.00$
BTS4-2. BIG TIME SENSUALITY
 Hundreds of quality textures
for use in Imegine. for use in imagine. Render your cojects in a variety of
shados, colours and shados, colours and textures. Compatible with all ngas.

Oniy ET200
$\square$ ITX12-7. IMAGINE TEXTURES
 powerful disk copiers,
make backups of your software collection with ease.

Onty $£ 5.00$
CPY5-2. DISK COPIERS

|  | Seventy bitmap fonts for use in almost any package including Deluxe Paint. Also features a fantastic font customising your own fonts. Only 87.00 |
| :---: | :---: |
| FNT7-3. FONTS \& EDITOR |  |
|  | Tetris is the most addictive game in the world, and that's a fact. This is a best. Best graphics, Best sound and best playability. Only 99.00 |
| CT9.5. | RIS MAYHEM |



| $\operatorname{mancNa}$ | Remeber the good old days of computing? Well now you can run classic Spectrum games on any Amiga with ease. You can even load your games from cassette and save them to disk. |
| :---: | :---: |
| Nuk | £5.00 |
| SPE5-3, SPE | EMULATOR |
| is | A selection of printer drivers including all popular printers such as: Hewlett Packard, Star, Panasonic, Epson, IEM, OKI, Seikoeha, |
|  | Postscript etc. Oniy $£ 3.00$ |

$\square$ DRV3-1. PRINTER DRIVERS


Contains a selection of
Video titiers, Video wipes Video titiers, Video wipes
\& backdrops. Great for \& backdrops. Great for creating professional home movies. All you need.

VID12-6. VIDEO STUFF If you've just purchased
your Amiga you may be a bit boggled how to use it property. Well this five disk set takes you step by step
through every basic thing through ev
to know.
$\square$ ABG9-5. BEGINNER'S GUIDE

|  |  |
| :---: | :---: |
| CRD10-4. | CARD GAMES |


$\square$ TTU3-1. 203 UTILITIES
 E. $2,258 \begin{aligned} & \text { features unbelievable } 256 \\ & \text { colour hi-res graphics. Also } \\ & \text { avallable now ara four new } \\ & \text { data disks featuring } 4 \text { new } \\ & \text { card designs. }\end{aligned}$ Q बताइत arm ano

KLD6-3. KLONDIKE AGA

STESO-. SYSTEM 3 ENHANCED


AAC10-4. ARCADE CLASSICS


$\square$ AHD7-2. HARD DISK INSTALLER
 FWHEF ST: Hundreds of colcur cip tonts.
 colours up to 32 collurs. graat tor vidoo wack or for ust making demos.

Ony $E 15.00$
CLF15-8. COLOUR FONTS


SBL4-2. NINE FINGERS



CDPD COLLECTIONS (2) FiSHDESKS The Frod Fish colection.
 in this set, ranging from wordprocessing to spreadsheets, graphics other things.

Ony $£ 39.95$
FRED FISH CD 1-1000

|  | 1000 all time classic Amiga games. Puzzles, Adventures RPG, Shoot em ups, Platformers. Works on the CDTV, CD32 or any othe Amiga CD ROM drive. Only 519.99 |
| :---: | :---: |
| LOCK N | LOAD CD |
|  | Thousands of archived ools including: patches, Dir tools, music, graphics, AGA tools, workbench tools. Irl take you months to sift through this lot. Only $£ 19.99$ |
| AMINET | CD ROM |
|  |  |

PRO. FONTS CD ROM


Play Poker with some of
the most lovely the most lovely ladies in the world. Includes supert
graphics and digitised speoch,

Onily $£ 12.00$
DSP12-1. DELUXE STRIP POKER 2


JITT4-1. CHESS \& TUTOR


WIO4-1. WILLIAMS F1

|  | A collection of great fun educational games for children aged 7+. Maths, spelling, speed, etc. are all included in thilation. |
| :---: | :---: |
| KDS STUFF! | Only 59.00 |
| U9-4. EDUCATIONAL |  |
| PASSWORD | Stop other people from accessing your floppy or hard disks, by putting a customised password on file encryption tools. |
| ENCRYPTOR | Only £ 10.00 |
| PSW10-4. PASSWORD |  |

6
o there's this rabbit, see? And as all his woodland friends have suddenly turned into slavering beasts, he's feeling a bit put out. So he stops day-dreaming about the foxy she-rabbit from the Cadbury's Caramel advert and hops off to dispense the long ear of the law to his violent exfriends. It's a platform game, obviously.


Through yonder door
lies the lies the clock you must collect
to finish the level


Reach the top of the level and avoid the eagle's groping claws

## SOUND

As befits a cute rabbit game, the tune is all bouncy and cheery. It probably wouldn't sound out of place on a kids' TV programme, like those quite terrifying Tiny Tots creations.

However, as is the case with pretty much every game tune ever, it has the ability to irritate you to the point of violence after about 10 minutes, so thank goodness for the chance to prod ' $M$ ' and switch it off.

Unfortunately, this shows up how sparse the sound is. A few FX for the enemies would have added greatly to the grooviness of the game. A squawk from the birds or a howl from the coyotes would be most pleasant. Inoffensive, but lacking real bite.

58\%


## ERHPHILS

There are two sorts of platform games, the normal sort and the cute sort. With a blue rabbit as its main character and various other furry animals as baddies, guess which sort Quik is. Yep, it's a cute-o-rama. And it looks really rather pleasant.

The scrolling is smooth enough and the backgrounds and platforms are clearly defined and a pleasure to jump on. The best graphical aspect of Quik is the great variety of enemy sprites, all suited to their respective zones, and each animated with individuality and flair.

It's also one of those games where bonus rooms and secret routes are tucked away but easily found. You know the sort of thing - conspicuos walls just begging to be jumped through. Some you'll find by accident and others you can unearth by using gamesplayer's intuition.

All in all it looks good and solid. All the platform requirements are there and it handles like a dream.

81\%

## CIMEDIAY

Make your way from one end of the level to the other, jumping on plat...stop me if you've heard this before won't you? To be fair though, despite it's generic appearance Quik is a very playable little game.
He can spin into enemies to kill them in a quite hedgehogtastic kinda way, and then collect whatever power-up is left behind. Being a rabbit, Quik requires constant carrot and water refills to prevent a trip to bunny heaven.
You can also collect hearts to keep your energy up and potions to enhance his natural bunny skills (no, not those rabbit skills). The potions come in two flavours, red and green, and allow him to jump extra high or to zoom along at thunder-like speeds.
While under the influence of the super speed beverage, our hero is impervious to damage from enemies but can eas-
ily lose his power by crashing into a wall.
At the start of each level you'll be told what you must do. Some levels simply require a speedy exit, whereas others demand that you find a clock before making an exit.

Clocks can be found through spooky doors that take Quik back in time to a sub-game where you must clamber to the top of a themed screen (prehistoric, medieval etc) platform by platform to claim the clock. The only trouble is that there are rolling boulders and a fiendish bird that keeps dragging him back down the screen.

Trampolines, secret passages and ladders are all present and correct to assist him in getting to the sub-game, and at the end of each zone there's a labyrinth section in Quik's burrow where you must first locate and then destroy an end-of-level baddie.

Three similarr, but refreshing gamestyles, all wrapped up in a playable chocolatey coating then.

## Thunder


the rabbit has a tharming face It's private life is a disgrace I really dare not name to you the awful things that rabbits do


Casting aside all previous platform games, Quik is really a perfectly funky little game. Admittedly, my first reaction to a platform game about rabbits was not printable in a family publication, but I was won over by the sheer profesionalism of it all. The difficulty level is spot
on, so with just enough effort you can get through the first three or four levels. Probably more suited to younger players, due to it's simplicity and cuddly approach, but despite every aspect of it screaming "cliché" it comes across as a very fun game.
It even stands up well alongside the competition Highly recommended, much to my surprise.


## ADOITIONAL INFO

Quik may very well be a speedy little chap but by far the coolest rabbit ever was Bugs Bunny, created by Bob Clampett in 1938 for the cartoon "Porky's Hare Hunt",

He was not, however, very funny until Tex Avery came along and transformed him into the epitome of wisecracking, sarcastic Brooklyn attitude.
By 1962 he'd appeared in a staggering 159 cartoons and received an Oscar for "Knighty Knight Bugs". His characteristic New York drawl was provided by Mel Blanc, who sadly died recently. Mel was also responsible for pretty much every cartoon voice ever, as well as Twiki the robot from Buck Rogers. A veritable star.

Classic Bugs Bunny moments include his frequent cross-dressing (thus proving himself to be a rabbit in touch with his feminine side), his immortal routines with Elmer Fudd and Daffy Duck (which always resulted in Daffy's beak being blown off by Elmer) and one brilliant cartoon where he goes head to head with Wile E. Coyote.

With Bugs you always know that he's going to outwit everybody, and as such he remains a super-cool, suave sex symbol with more star quality in his teeth than all of Disney's sickly efforts put together. Bugs, we salute you.

0ver the years Sierra have built up a reputation as the software house famous for its adventure games. Leisure Suit Larry, the Space Quest and Police Quest series of games, and Willy Beamish; the names of great Sierra-produced adventures just roll off the tongue.

Sierra haven't had an adventure on the Amiga for a while now, but cue clap of thunder and bolt of lightning because they're back! King's Quest 6 is here and I, for one, have been drooling over it ever
since I saw some $W \|$ IIII H||IN early shots.

The tale of Princes, Princesses, Kings, witches and dragons is being spun out once again. The King's Quest series of games have all been very much like a set of fairy-tales and I guess that's why they're so popular.

In these times where games must contain violence or aliens or both to succeed, King's Quest makes a nice refreshing change.


A shot from the brilliant-rendered 3D introduction and the Prince has taken to the seven seas to find his lost Princess

Sierra are back and clutched in their mitts is the sixth instalment of their fairy-tale adventure. Come with Prince Jonathan Maddock as he takes trip to the Land of the Green Isles to find his Princess.


The inventory is basic and very easy to use and can be accessed from the menu bar at the top of the screen

Prince Alex enters the Realm of the Dead to try and gain an audience with the Prince of Darkness


## STDiYIUTE

Once upon a time there was a prince called Alexander who lived in a kingdom in Daventry. The Prince was very unhappy because he had lost Cassima, the girl of his dreams. While moping around the castle, Alexander experienced something very strange - his mirror began to speak to him.

Inside the mirror was Cassima who had, apparently, got lost in the Land of the Green Isles. Alexander did not know where this land was, but being rather clever noticed a set of stars in the mirror. By using his superb astronomical navigating skills he could now find where Cassima was.

Jumping onto his ship, the Prince and his crew set off for a journey over the seven seas and beyond. When they finally spotted land, disaster struck!

The seas began to turn violent and a major storm broke out. When Alexander next opened his eyes he found himself lying on a beach, with bits of ship strewn about everywhere and without his crew. This is where the "real" adventure starts, as you take control of the Prince and must complete his quest of finding his lost love.


The start of the King's Quest adventure and Prince Alex finds himself all washed up on the beach

Just look at the quality of those graphics! Just one of the many screens in King's Quest 6 that'II make your eyes drop out... probably


## BMMPIIRS

Sierra were planning to do a 256 -colour version of King's Quest 6, but they were so pleased with what the 32 -colour version looked like that they shelved the idea.

I'm in agreement with Sierra's decision because the graphics look absolutely gorgeous and the 256 -colour version might have slowed the game right down.

The introduction to the game is rendered in 3D and features some excellent morphing techniques. The sprites, which range from guard-dogs and minotaurs right down to

the devil himself, are well-drawn and very well animated.
The icon bar at the top of the screen is very basic, but helps the game flow along and makes it easy to understand for first-time adventure gamers. The only quibble I have is that some of the objects are just too small for the eye to see and you quite often find yourself walking past them. The backgrounds in King's Quest 6 are almost too good! They set the atmosphere perfectly and you could almost believe you are walking around in a

Sierra's adventure, graphics-wise, is on a par with Monkey Island 2 and The Fate of Atlantis. You can't get a higher recommendation than that!

## FISMISMET

You'd obviously have to compare King's Quest 6 to adventures like Monkey Island, Simon the Sorceror and Beneath a Steel Sky.

All these games contain some high-quality graphics and have an almost unrivalled amount of playability. King's Quest 6 is as good as just about every other adventure I have ever seen.

This is the sixth King's Quest adventure and although it is undoubtedly the best, I'd also suggest you try and get your hands on a copy of some of the previous ones.

They don't quite match King's Quest 6 in the graphics department, but the playability and addiction is still there in abundance.


Walking into the Minotaurs and lair and insulting his mother isn't perhaps the brightest idea you've ever had

## SIIN:

What surprised me the most about King's Quest is its brilliant little "olde" medieval tune that plays while you play. More often than not, adventure games suffer because of their abysmal tunes that play throughout your quest and have you reaching for the volume switch on your monitor.

There are a number of sound effects within the adventure and even though they're fairly sparse, the quality of them is worth shouting about. If you could only take a listen to the waves lapping onto the beach on the very first screen, you'd know just how good they are.

Sound-wise, I can't really fault King's Quest 6 because what's in there is adequate enough to please the average gamer.

715\%


## ADロ|IIM INF

There have been a lot of famous "Kings" over the years. I'm not talking about monarchy, but here are my two favourites.

BB King is a US blues guitarist, singer and songwriter and was one of the most influential elec-tric-guitar players of the 1960's. His albums include Blues is King (1967), Lucille Talks Back (1975) and Blues ' $n$ ' Jazz (1983).

Martin Luther King Jr was a US civil-rights campaigner, black leader and Baptist minister. He was one of the organisers of a protest in 1963 where 200,000 people marched to Washington DC to demand racial equality.

An advocate of non-violence, he was awarded the Nobel Peace Prize in 1964. King was assassinated four years later by James Earl Ray in Memphis, Tennessee.


Hubble, bubble, toil and troublel Just one example of the superb static screens to be found in Sierra's adventure

## DPINIIX 85\%

Adventure fans will be delighted that Sierra have finally decided to release the sixth adventure in the King's Quest series onto the Amiga.
After such a long time away from Commodore's machine Sierra might have been weary of going back to it, but they needn't have worried because, hopefully, King's Quest 6 should get the recognition it deserves from the general public.

The game comes on 10 disks, so you'd think that a hard drive is pretty much an essential piece of kit. Well it is, but for those non-hard drive owners the disk swapping is kept to an absolute minimum and for this little factor I applaud Sierra.
As far as adventure games go, they don't get much better than this. With its brilliant graphics, a fairy-tale of a plot, superb playability and a level of addiction that will keep you coming back for more and more, King's Quest 6 is an adventure that should have a place in everyone's games collection.

Buy it or you'll regret it, maybe not today...


Among the many attractions in this particular Theme Park is a superb haunted house which looks as though it's been robbed out of a Scooby Doo episode


Populous. An original and addictive title that arrived amongst a sea of mediocre shoot-'em-ups and platformers. It completely changed the way games were perceived by the people who bought them and more importantly by the people who created them.

Theme Park could well have the same effect over the computer games world that Populous achieved five years ago. The software industry is leaning slightly towards the production of licensed platformers and shoot-'em-ups because these types of game sell incredibly well with the general public.

I know it is hard to come up with ideas for original


The queues are getting bigger and it's probably all down to your all-new space shuttle ride. A firm fave with the kids!
products because everything seems to have been done before, but it's still no excuse. It's this originality that will, hopefully, turn Theme Park into a raging success story.

You take the role of a nephew who has inherited a fortune from his rich, but eccentric Aunt. However, there is a catch involved - he must build the world's biggest and most profitable theme park.

## SIMULATION

Bullfrog have combined all the fun of creating your own theme park with a business simulation. Theme Park is the first game in Bullfrog's "Designer Series" and the aim is to broaden the traditional appeal of simulation programs by combining accurate simulation


One of the rides that's user-definable is the roller-coaster. That double-loop is sure to upset a few stomachs


The Chicken man "entertains" the kids while they wait to go up and down on the plane-ride
entrance fees and salaries, but you have to determine things such as how much salt to put on the chips in the chip shop.

There is a reason for all this seasoning malarky because the more salt you put on the thirstier the visitors will become, therefore they will start to buy more of your cola.

Theme Park is a highly original product and for me that counts for a lot in today's current games climate. It's already received an abundance of high review scores from the PC games magazines and I'm in no doubt that it'll achieve the same kind of success on the Amiga. Theme Park will arrive in this office next month and already I've got a smile on my face. ark is the beginning of a new era in gaming "While the Designer Series has its roots in techniques

Park Iife
There are a couple of different ways to play Theme Park. The first, Sandbox, is the most basic. This involves the creation of a park and all you have to do is make sure the visitors are happy and safe.

For those who fancy a bit more of a challenge there is the Business Simulation option. This full-blown business simulator challenges you to not only build a park, but run it as a successful business, incorporating marketing, forging contracts and negotiating staff wages.

There are 32 purpose-built rides to choose from, and six user-definable rides that include race car and helter-skelter rides. You can add corkscrews, loop-the-loops and decide on the speed of the rides. Each ride will have its own "wow" factor and the visitor's reactions will give you a clear idea of how successful your rides are.

Positioning a chip shop too close to a ride that is too fast could end up with visitors regurgitating their last meal, or even being thrown off the ride.

If incidents like the aforementioned one continue then the park's reputation will suffer and it'll start attracting hordes of thugs. These vicious louts will beat up the visitors and vandalise the rides. However, to combat this menace, security guards can be employed to evict any unwanted visitors.

As well as security, you can hire maintenance men to repair the rides, handymen to pick up litter and entertainers who can be dressed in a variety of costumes to keep the queues happy and contented.

I guess this is one of Theme Park's biggest attractions. There is no blood, no evil aliens from the planet Zarkion, no platform jumping cutesy creatures - there is only the job in hand of keeping your visitors merry. refined and honed over our previous releases, the business simulation side is a new direction for Bullfrog.
"We are confident that it is better than anything comparable currently on the market, so we intend to use it as a basis for a series of programs."

Your theme park must compete against 40 other parks and as your park becomes more profitable, these competitors will attempt to buy shares in the park and try to take it over, thus finishing your career.

Just to give you a brief example of how in-depth Theme Park is, not only do you have to decide on


One of the essential sections of your park is the area where all the food emporiums are situated

The terrain on to which you must build your new city

The press are allegedly, the people's voice for you as mayor


not go through this physically demanding and financially draining practise to establish your ability as a town planner and budding mayor.

In fact, if you are on this self-destructive trail stop now, because Maxis, the company who have brought you every other conceivable SIM title, are returning to the Amiga as a games platform. Their latest foray into the world of simulating every day life is Sim City 2000.

While there's little information available on the Amiga conversion, you only have to take two facts into consideration. One, a back catalogue of simulated realities that no one can better Sim City, Sim Life and Sim Earth to name but three.

Secondly, the Apple Macintosh version of Sim

IIown planning, who'd do it? At school once we had a guy who studied with the single intention of becoming one of those elite fabrication gurus.
The excitement, apparently, lay in the planner's ability to create a Narnia in housing form as opposed to constructing concrete riots in a tenement carbuncle.
It was never established what happened to this acquaintance of mine, but the last thing ever to be heard of him was that he'd met a girl who had just given birth to his third child in as many years. All of which were unplanned - the irony, huh?

Well, very soon all you budding town planners need

City 2000 is currently burning into the pockets of employers far and wide, as addicted workers turn off their spreadsheets and turn their attention to planning that condo.

Sim City 2000 begins by asking you a time zone in which to commence. You can place yourself at the turn of the 20th century or zip ahead to more futuristic zones, post 2000AD.

Establishing the time period will automatically determine your first decision, power. Every city, whatever time it might have been born into, needs a source of power. The Amiga version gives you limited choices at the turn of the 1900 's, like oil and coal fossil-powered
generators. But, playing in future times allows the luxury of more environmentally friendly forms of power. For example, your cities could benefit from wind, wave or hydro-electric power. On the other hand you might opt for the highly risky nuclear energy - whatever your preference the choice will be yours.

## DCCIIIONS

When making the decision you'll have to bear in mind such things as pollution and the health risks generated (nuclear power seems to have a habit of mutating the genes of the local inhabitants).

After you've dealt with this mind-wrenching decision, you can move onto the hand-rubbing business of building your city.

Before you commence building, it'll probably be a good idea to have a talk to the different departments under your control. You'll have to set budgets for fire, police, education, transport and other council-funded departments. Clicking on icons allows you to interact with the different departments and even ask advice from them.

After you've made those important rate capping, tax


The beginning of your
new metropolis

increasing decisions you'll be set to send the bulldozers in. Some of the first operations you'll j2
perform are to make sure your would-be city has an ample water and electricity supply.

As you build different industrial complexes and housing estates, each has to be connected to your main grid - failure to do so will mean that little will be built.

As well as ensuring that power reaches your lucky populace, you'll need to ensure that a road or rail system is in effect so that your population can move to work and back (rat race syndrome reaches computer games).

As you've probably gathered, Sim City 2000 is going to capture just about every reality conceivable to city life. But, it will begin to speculate about society once you proceed past the year 2000 .

The game should then start featuring massive city blocks which house thousands and include their own environment and feature waterfalls and forests.

Also included should be the disaster option. This will give you an option of including natural and man-made disasters into the equation. These could vary as widely as floods and tornados, through to plane crashes and


Using the zoom facility you'll be
able to make a closer inspection


## Happy heads

One of your tasks is to keep your populace smiling. Their feelings are reflected through newspapers, which as well as informing you of events occuring in neighbouring towns, will keep you abreast of feelings in your own metropolis.

To keep a grin firmly in place you'll be able to build parks and small wooded areas of land to create a feeling of space. You'll also have an option on parks, zoos and other stadium orientated pastimes.
But, how are you sup-
posed to encourage people to move to your new town to play in the parks and zoos and work in your factories? Well, you'll be able to connect your city with other cities via road, rail and eventually via the air.

Once your population starts to boom and your central business districts begin to take off, you'll have to start injecting money into educational institutions such as colleges, museums and libraries.
respond. It seems from other versions that have been released that Sim City is shaping up to be a massive hit with Amiga owners. CD32 owners could well be in store for even dizzier heights if the conversion features the footage that the CDROM version includes.

I, for one, am looking forward to creating sprawling condominiums of the future and wait with industrial gloves and builders jeans sliding down my rear quarters for its imminent release.
alien monsters attacking your city.
Viewed isometrically with the illusion of the player looking from quite a height, the Amiga versions should differ very little to their PC or Macintosh counterparts. The graphics on the latter machines were small but incredibly sharp and accurate, with many animated sections.

## EFFECTS

For example, trains should trundle towards their destinations and the cars will swarm up and down the highways like many ants.

The games control is entirely mouse driven with the user clicking on and off icons and menu bars. This should make play easy to manipulate and quick to



DISKS COST 11.25 EACH, NO MINIMUM ORDER, ALL VIRUS FREE AND USER FRIENDIY All Games are on 1 disk and run on all Amigas unless otherwise stated. PICK AN EXTRA DISK FOR FREE WITH EVERY EIGHT DISKS YOU PURCHASE UNDERGROUND P.D., 54 CARMANIA CLOSE, SHOEBURYNESS, ESSEX 553 9YZ. Tel: 0702295887 IName: Telephone:

The Most Sophisticated and realistic Football Mandgement Simulation has anived. Tectical Mandger actually plays each match ball by ball - you can interrupt any match in real time and adapt your strategy according to your team's strenghth, tactics, fielding and the run of the game.

Operate in the national and international transfer markets selecting from 3740 real footballers and 41840 real player parameters to build your ideal team. Use the unique databaselthe search faclity to locate any player in the league each of them with 30 real parameters to ensure uhimate redism - be oware of the positive and negative aspects of each individual.

Select from 64
approuchics man mak the opporition and ploy the Cflide trap? Improve the peryonamice of your ceant oy motivaing them, using substrute

Retrieve 20 years of resuls and league thblas 21290 matches! 13 different chats ranging from the standard league toble to the mosi bookinits and most contititent player charts. Print resulan tablew, fiatures, transler and Europool lists, referee and financial data, scouts and examinet reporth, squads, and manager achievements dating back over the last 20 years.

Compete at fiendly level, League, F.A and League, European, ECWC and UEFA Cups or chatlenge the top European teams.

Experience THE most sophisticated manasement simulation ever. Over 900 Kb of game logic programmed in Assembly code to give ultimate detail and speed and a unique 46 ployer mulb-user system. Complete control of your team: Select your pendly, free kick and long throw takers; wingers, sweeper captain, ball winners, playmakers, reserves and ploye managers.
Available Now for all 1 Mb Amigas ( 1 Mb required) - 25.99

## s, artiogrerg

Black Legend. Filling Mall Bum, fulling Mill Lene, Wdivnn Hett. Als onp Tel: 0430840004



"Tacticel Manager should satisly even the most committed Fergie wannabee" Amiga Format
"Each game played has a redistic outcome" . The ONE
"Penally incident quite literally had me on the edge of my seat" The ONE
Lastability $\mathbf{8 7 \%}$
Tactical Manager is a very obsorbing football manager simulation. Etremely involving. A great game". CU AMIGA Lastability 96\% Playability 93\%

THE World Cup is now over, but you can re-live the excitement of the world's greatest sporting event by entering this competition.
Courtesy of US Gold, Birmingham's finest and the world's most generous software house, you can win a bundle of official World Cup USA '94 merchandise.
Why are US Gold giving away all these goodies? Well, it's because they have the official World Cup USA '94 licence and their splendid game is out on your shop shelves now. Answers the four questions and send the form in to the usual Amiga Computing address before the 25th August 1994 and you could be the winner of all these splendid World Cup USA '94

Cruiser E10.99
The Cruiser is rapidly becoming a firm favourite with games-players. There are two styles of Cruiser; one is decked out all in black while its brother is perhaps the brightest joystick you could ever buy.

Pastel shades of green, yellow, blue and pink cover the joystick and even though it might make the average gamesplayer regurgitate his/her last meal, it certainly performs well.

This is down to the unique three-way power control dial situated at the bottom of the shaft. This makes the shaft looser or stiffer and can be varied depending on the type of game you're playing. The stick and its buttons are fully micro-switched and
respond well. The body of the joystick is slightly longer than most sticks and the fire-buttons seem to be further away, but the Cruiser fits snugly into your hand and after a while you forget it's ever there. A highly recommended buy and one of my favourite "sticks" of all-time.


Eompetition Pro Eitra


The first thing that strikes you about the Pro 5000 is how solid and sturdy it feels. It has a rather short handle with the two fire buttons located on the thick rubber base.

On a game like Road Rash it felt a little too unresponsive, having to push it rather fiercely in the right direction. But for the beat-'em-ups it proved excellent, letting you carry out the moves more precisely.

Also available from the Competition Pro Series is the Competition Pro Extra. This is a transparent version of the Pro 5000 which, normally, is coloured the standard black and red. The Pro Extra contains the additional feature of an auto-fire button giving mega-blast rapid fire, short rapid burst or single shot.

The two large fire but-
 tons provide ease of use for both right and lefthand operation. For some with smaller hands though, it becomes quite a strain to keep your thumb stretched onto the stick. Both joysticks are good all-rounders that promise durability.

Where to huy
Although some of the joysticks in this feature are from various manufacturers, all of them can be obtained from Power Play who can be contacted on 0457876705 , or the majority of sticks
are available from any good computer stockist. The only exception is the Cheetah Mach 1 which can also be found in almost any good computer stockist.

## Cruiser Turbo

This is very much like its cousins, the Cruiser MultiColour and the Cruiser Black, but it has one distinct advantage and that is the turbo/rapid auto-fire option.

This little beast is only really useful when playing shoot-'em-ups for that little bit of extra and faster fire-power, but for this type of game it really is a god-send.

The Cruiser Turbo is very comfy, fits in the hand nicely and responds very well, thanks to its eightway micro-switches. The Cruiser Turbo also has the ever-so useful three-way variable tension control.

Apart from the auto-fire option, this Cruiser isn't much different from its counterparts, but if fast fancy firing is your "thang" then I guess this is the joystick of your dreams - but bear in mind that it does cost you a little more.




## Cheetah Mach 1 E10.99

This is quite a large joystick but very easy to use nevertheless. The long, gripped handle fits nicely into the palm of the hand, with comfortable ridges to place your fingers round. The two fire buttons are located conveniently at the very top and around the side of the stick.

An additional two buttons are provided on the base and the eight directional microswitched control feels light and very responsive.

The auto-fire button is placed on the base but it sometimes seems to fall halfway between the two without even

touching it. The joystick also makes a worrying metal on plastic clicking noise when you're playing a game that requires fast joystick work.

Games that require a fast response but don't need absolute precision will benefit from this joystick as it is very light on the controls. It is comfortable to hold but doesn't really feel as though it will last.

## Navigator $\mathbf{E 1 5 . 9 9}$

Perhaps the most unusual looking joystick out of this little batch and even though it looks like something out of Star Trek, it does work surprisingly well. This stick has been specifically ergonomically designed so that it ensures a perfect fit, no matter how big or small your hands are.

It is unlike your average joystick and it will take a while before you get into the swing of controlling it. It is perfect for shoot-'emups as the fire-button is placed right next to your trigger finger.

The Navigator is fully micro-switched and has a, and I quote,
"unbreakable"

robust steel shaft. It certainly won't appeal to every gamesplayer, but I expect that most of you will be pleasantly surprised at how well it performs.

The Navigator is one of those sticks that you're either going to love to bits or hate to death and I seriously recommend that you try it out before you buy.


## The unlikely character of a

 fish has proved incredibly successful for Millennium pushing it into other fields? On the one hand, if you have a good character and another company want to use it to endorse their products then all is well and good - both parties reap rewards from the deal and sell more of their products. But on the other hand, in the extreme it could have a detrimental effect on the minds of the young.Views within the industry on this are mixed to say the least. Simon Phipps of Core Design stated: "We must make the choice as to whether we wish them to grow up as individuals, capable of making informed choices, or whether they will grow up the eternal prey of the marketing men." According to Paul Green from Gremlin: "You have to capitalise on the market. It may sound cut-throat but after all, every company is in existence to make money."
"Why can't game characters become commercial property in other fields? Twelve years ago you couldn't move for 'Six million dollar man' merchandise, and eight years ago who could ignore the Smurfs or the Wombles?
"Everyone is up in arms because we are guilty in their eyes of polluting children's minds but it's only the medium that's changed. Instead of cereal packets it's now computer games," said Keith Smith of Millennium. Taking all these aspects into account it is apparent that software houses have huge obstacles to overcome in design-
ing games characters. They are up against an increasingly choosy public and have to compete against all the other releases that hit the shelves. They have to be spot on every time, especially in a market where mistakes prove very costly, and must move with the times ahd with current trends which change constantly.

Giving an inanimate picture a personality and making it come alive is fundamental in producing a good character and they must achieve this in their design. All these are pretty tall orders and take great time and thought to get exactly right. So, next time you pick up a game it's worth considering just what has gone into the design of the character.


Even an unlikely egg shape has become successful


Pinkie - a character for the nineties

Gremlin's Litil Divil again seems to hold that magic 'appeal'

## Success stories

Who better than the people in the know to give us their insights on what they believe to be their big success stories.
"Codemasters' Dizzy is a simple character, yet very successful, and has been adapted to play in every type of game. He has a personality and a background which help to bring him alive in the game, yet his simplicity means he is adaptable to many forms." - Simon McCormack, Codemasters.
"James Pond obviously was successful. Here we have a game that stars a secret agent that is a Cod. In James Pond 3 he is running around the Moon, which stretches the realms of belief right to the limit. Pinkie has already proved himself to be a good property, because he reflects nineties values." - Keith Smith, Millenium.
"The Battletoads were incredibly successful in the states - probably because they rode on the backs of the Turtles phenomena, which was much bigger in the US than over here.
"It was just a matter of being in the right place at the right time with the right welldesigned characters in their own well-designed game. Success in this business is largely down to luck - that and having lots of money to begin with - to get the product to as wide an audience as possible." - Guy Miller, Core Design.
"Rick Dangerous, well, I'm pleased with him, he made it to a sequel and across six formats. He was likeable, funny and the game had plenty of twists and turns that made you go back to it for just one more go." - Simon Phipps, Core Design.


## Special Offer for <br> A1200 owners

Zappo CD Rom Drive plus
Free Lemmings Game $£ 194.99$

## UPGRADES (Amitek)

A500 1 Mb Ram Board...... 530.00
A600 1 Mb Ram + Clock..... $£ 40.00$
$\mathrm{A} 600 / \mathrm{Al} 12002 \mathrm{Mb}$
PCMCIA Ram Card.......... 109.95
$\mathrm{A} 600 / \mathrm{Al} 2004 \mathrm{Mb}$
PCMCIA Ram Card......... 1559.95
Hawk A1200 1 Mb
Populated-No PFU..
. 994.14
Many others - POA

## GVP

HD8 +0 Mb HD.
E149,99
$42 / 80 / 120 \mathrm{Mb}$ HD Options ....POA
A530 42 Mb HD........... 3859.00
$80 / 120 \mathrm{Mb}$ HD Options........POA
DSS8 + Sound Sampler....E64.00
4 Mb Simm.
. 189.00
16 Mb Simm.............. 1205.00
Image FX .....................E189.95

# The Great A500/A500+ Trade-in Call for Details 

Must be in working order with PSU, Modulator \& Workbench disks. Trade in for A1200/A4000s

## Black Cat Computers

 Freepost SF1285, Sheffield S2 1ZZTel/Fax: 0742769600
Prices include VAT. Postage FREE
Prices include VAT. Postage FREE We sell all sorts of products including: Scanners, Modems, Laser Printers, CD-Rom Drives, Games Software, Joysticks, Educational Software \& much much more!

## PRINTERS

Citizen ABC. ..... £149.99
Epson $1 \times 400$.........
Seikosha SP1900+ ..... £139.99
Seikosha Speedjet 200. ..... 6179.99
Canon BJ200... ..... +269.99
$\overleftarrow{5} 17.08$

## MONITORS

.. $£ 289.99$

| Microvitec $143814^{\prime \prime} 0.28 \mathrm{~m}$ dot pitch. | 289.99 |
| :---: | :---: |
| Sharn TV/Monitor 14" | £164.00 |

A1200
Computer Combat
$\pm 329.99$
$80 / 120 / 200 / 340 \mathrm{Mb}$

HD options.
..POA
Innovations .........................e329.99
Race ' $n$ ' Chase................. $£ 289.99$
Race ' n ' Chase...........
$80 / 120 / 200 / 340 \mathrm{Mb}$
HD options.
.POA
Desktop Dynamite..............E329.99

## A4000

All include Deluxe Paint 4 AGA. Wordrworth, Print Manager
A4000 / 030ec 4 Mb Ram 0 HD .
.8874 .00
214/540 Mb HD Options........POA
A4000/040lc 6Mb Ram 0HD................................. $£ 1390,00$ 214/540 Mb HD Options........POA A4000/040tw 6Mb Ram 0HD
. 1734.00 $214 / 525 / 1050 \mathrm{Mb}$ HD Options....POA

## A600

Wild, Weird, Wicked......... $£ 195.99$
Lemmings...
. .185 .99


## 66 Tetren

One of the best Tetris games around. Progressive difficulty and two playurs. A 498 Specey Classics A mulection oif early dasis Spectrum games

## 530 Bandmine 12

 Bouldoriath games are always good, anfuis n no mocrution Mindbending at tumen 585 Road to Hell
 680 High Dctane Yet arother overhesd racir, and yet unother 810 The Ultimate Games All the "Ulitmatn" Spectry panes to load into

## 1209 Gush


1213 Starhase 13 (2 dala)


## 1308 Golden Dldies

A mour have disk thar anel II cammins all the
old arcede favourites of a bygone time. including Astervics ettc

## 1735 Klawz The Cat

 1909 Diplomacy
A computer version of that classic hoard
2206 Fleuch
A mosern day varemn of Thruet, the classic :

| SERIDIS | UTILIT |
| :---: | :---: |
| 45 N -Comm 3 | 386 V Marph |
| 1 you have a modem thee you will need this excellent program | Cresta your awn marphs Wow. 634 Professional Utils |
| 293 Amihase Pro 2 | A very good seloction of programe that you |
| Top of tae crop as far as danhase prograns ga Eary to use and powerful mough for any use. | thould not be without |
| $415 \times$ Beat Pro | Create your very uma strenturs games with |
| This 15 a tenter misic sequ | tha nippy program. |
| 10 use Very bip quait, prolamanal | 901 Sm 2 |
| 442 Pools Tools 2 | The mosp popiar if maraymert propram |
| A tool to help you whth the poola. Easy to use and quile polishod. | 1087 VIC 20 Emulator <br> Turrs your Amiga into a VI: 20. Comes with |
| 607 Forecaster | tuns of games Needs last Amign to run well |
| II you have the patience, then this program should halp you a lot to pick aut a winner. | 1227 Crunchers Disk |
| 1042 Easycale | er You will ind 60 d dhe bet on this disk |
| The best spreadstent program you can get. Very easy to usa wh quick clear display. | 1249 Grinder |
| 1281 PC Task 2 | Sormaf to mocther |
| This is a warking demn versimn of a very protrient PC emulator. | 1446 Spectrum Emulator <br> An maral |
| 1291 Sat Track | your Amiga intr |
| d pragram for tracking s | 1579 Menu Master 3 |
|  |  |
| This is a fertastic nigit sky viewer. Il youire | 1863 Classic Utilities |
| into astrunamy then pou reily shouid get thas |  |
| 1811 The Money Program | 2143 Sample Maker |
| A sunpin to ure bas powertul prognam lax keeping track $d$ var finenoss Can be an wer qpener. | Make samples wihaut a sampler. Sounds weird but if's trus. |
| 1817 Account Master | 2161 Crossword Creator |
| 訾1 | A procram for makking crosswards in |
| 2071 Edword Pra 4 | 2375 Opti-Comms 2 |
| The best tec edinar $y$ I | A good coilletion of programs to get you |
| 2657 Electro CAD | going will your moder |
| Design your uwn electric crrcults wih sase An enthusiasts aream. | 2582 D-Copy 3.1 |
|  | The most copled dakk umpar |




| MUSIC/DEMD A1200 DNK |  |
| :---: | :---: |
| 19 State of the Art | 363 Warkhench Screens |
|  | Brighten up thet dill woritanch screen wih |
| 839 Fingers (2 Disk | 583 Sleepless Night 3 |
|  | A mild collection of tuls thit are guaratieed |
| 47 Sequential | 719 Maric Factory 1 |
| roller crabler demo, literaliy with sons | A fantastic slinestow of Sar frek plitures. |
| 938 How to Skin a Cat | 782 Klondike Deluxe (3 dsks) |
| Piece of Mind | The donste patiecce game with beuutitul plic- |
| demo with | 842 Megahall AGA |
| 1059 Basso Continu | Doe of the mast popular games |
| In tunes on are diskl Thay are all | 1020 Assassins Fix Disk |
| 1114 Kans Theory | Disks won' work on your 1200 ? Get t |
|  | 1268 Point of Sale |
| of the best music the Amiga has over | 1592 A Vissic ALA dumn. |
| 1607 Club Mix 3 | Some lovely hiras full colour tractal |
| 243 attraction |  |
| 43 Attraction | 1717 Magic F |
| 0 says all good music disks are hno/rave dask? This one has slow | 1740 Full Moon |
| 1664 Techno Tracks 2 | GoulGrids axd gnimizmik tsagutd 1784 Planat Gragve |
| nat demo with some awesum ta your peril | A good dimo wîh a great ariginal tune A nice cate dak |
| 2281 Desert Dream 12 Dabs) | 2007 A1200 Hacks |
|  | Dheer up that sad warkbench with one of tese |
| 2462 Somelling frr your Mind | 2215 Bif Tme Sersumlity $\mid 2$ diski |
| Gastric Ulcer |  |
| no music with s | 2918 Relokick 1.4 |
|  | 2318 Reiakick 1.4 |
|  | task and pet those oll programs running |

# Compudial Mulfimedia Systems In association with NJHH Games Suppliers of hankrupt and Liquidated Amiga Hardware and Software 



Alien Breed 2 Alfred Chicken Another World Canon Fodder Mortal Combat Beneath a Steel Sky Chaos Engine Zool 2 Walker Blob

Combat Air Pistol Gunship 2000 Fury of the Furries Goal
Kid Marks Jurrasic Park Pinball Dreams Pinball Fantasies Urudium 2
Soccer Kid

Trolls Disposable Hero F1 Tornado Syndicate Grand Prix Micro Machines Qwak
Wiz n Liz
Turrican 3
Space Hulk

Stardust Alien 3
B-17 Flying Fortress
Cool Sport
Desert Strike
Apocalypse
Arabian Knights
Putty
Flash Back
Settlers

Space Hulk
Diggers
Body Blows 2
Over Drive
Bubba n Stix
Second Samurai
Liberation
Kings Quest 6
Patrician


Alien Breed 2 Alfred Chicken Chaos Engine Civilization Diggers

Jurrasic Park Pinball Fantasies Second Samurai Urudium 2
Zool 2

Body Blows Galactic Burning Rubber Castles 2
Ryder Cup Golf
Soccer Kid

Liberation
Fatman
Ishar 2
Oscar
Wiz n Liz


All software titles are on a first come first serve basis. Order quickly to avoid disappointment.
Please add $£ 2.00$ p\&p towards total order. Please make cheques /P.O's payable to
Compudial, Suite 501, International House, 223 Regent Street,
London W1R 8QD. Tel: 0585250814 Mon - Fri 9am - 5pm.
No orders taken over telephone.
Many more titles available. Please phone for details.

## FREE <br> FREE FREE <br> FREE <br> FREE <br> FREE

To all readers of AMC, a Maxon M1 Mobile phone (worth \&85) \& free connection (worth £70) when you subscribe to the Cellnet tariff No cons, no gimmicks, just common sense! Telepbone our Hotline now on

# 0324 <br> 631 <br> 51 3 

10am - 8pm 7 days
Subject to credit status.

To place an ad on this page call Barbara Newall on 0625878888

Copy dates:
$\begin{array}{lll}\text { Oct } & 1 \text { Aug } & \text { On sale } 25 \text { Aug } \\ \text { Nov } & 30 \text { Aug } & \text { On sale } 22 \text { Sept } \\ \text { Dec } & 26 \text { Sept } & \text { On sale } 20 \text { Oct }\end{array}$
Free typesetting service provided


## KEW=II

SOFIWARE
THE BEST QUALITY PD \& SHAREWARE
The LEADER -
OTHERS CAN ONLY FOLLOW!
FREEFRIENDLY HELPBY
POST or PHONE ANYTIME:
PICK YOUR OWN PROGRAMS!
BY NAME NUMBER AND SIZE! ITS EASY!
500 k makes 1 bootable disk! 800k makes 1 non-bootable disk!
FREELY UPDATED CATALOGUE DEX \& VIRUS CHECKER ONLY \&1
Phone for the LATEST PROGRAMS!
$1-3$ disks $£ 1.50$
4 or more
0.2
South Croydon
Surrey CR2 9YS
Tel: 081-657 1617

## Amiga-64-Link ${ }^{\text {£23.50 }}$

Links C64/128 peripherals to the Amiga paralel port (C64 not required)
Use your old C64 printer with the Amiga (MPS, DPS, Star, Citiren, Seikosta, Brother.-)
Transfer C64 disk files to the Amiga (BASIC, Eaysscript, Sequential, Binary-

## York Electronic Research

 Tel (INBH) 6illoze fer国

## HORNESOFIT PD

EST 1990
Over 11,000 Amiga PD Disks, priced from just 30 p to 75 p .

Past friendly service
We stock the lot including
Fred Fish, Assassins, T Bag, A1200 only etc
Now int F1 Licenceware
Also available: Final Frontier issue 6 for just $\$ 6.20$ inc $p+p$. Also Holodeck $3 \& 4$ £2.50 each inc p+p

Send SAE plus disk to address shown below for free catalogue or send 75 p postal order/cheque made payable to Homesoft PD.

No minimum order, no fuss, just good quality Amiga PD to suit everyone's pocket
Homesoft PD, Dept AMC, 23 Stanwell Close, Wincobank. Sheffield S9 1PZ Te: 0742492950

What do you want from a PD Library? - 24 Hour Turnaround?

- Possibly the best catalogue in the country? - Friendly service run by Women? All this for 85 p per disk?
Then send $50 \mathrm{p}+\mathrm{SAE}$ for cour catalogge of $2000+$ disks to Dept CO, 2 Wycliffe Terrace, Gilmorton Road, Lutterworth, Leicester, LE17 4DX


## MILITARY SIMULATONS

Barbarossa June 1941 @ $£ 17.00$
For those interested in intelligent strategy wargames. Send SAE for details to:

## NW Software

155 Ringinglow Road, Sheffield S11 7PS

## 四

 Half year subscription July-Dec $£ 12.00$ UK only Call (081) 6515436 orWrite to 45 Brookscroft, Linton Glade, Croydon CR0 9NA Independent Commodore Products Users Group

## Are You Missing Out on the VERY BESI

AMIGA User Group???
Thousands of New Contacts, Free Help A Advice, Secondhand Hardware. Software and Hardeare bought / sold / exchanged. Exclusive massive Club discounts, latest prodexchanged. Exctusive member reviens. Plus the best Fanzines/dislaines and Millions of PD/Shareware titles at unbelievable member only prices. Exclusive Newsletters, BBS and much, much more... Fint out what you're mis ing by sending an SME for our FREE intro pack to:
C.6.6. (LC.6), FO Box 121, Gerrards Gross, Becks, SL9 SNP (0753) 884473


## FREE PD SOFTWARE

AMIGA - PC - All Commodore


28 Sandbeck Ave, Skegness, Lines, PE25 3PX
 (0754) 760665 Catalogue Disks 20.75 Blank Disks 20.38
Fiesse make cheques Fease makt cal
payable to TOXIC SOFTTARE PO
$60+$ CD32 TIILESNIDEE CD TITLES NEW RELEASES AYAILBLE NDW Lock $n^{2}$ Load £19.99 CDTV/CD32 Aminet 2 £ 19.99 CDTU/CD32 CD Exchange 1 £19.99 COTU/CD32 Gold Fish (2 CDs) f29.99 CDTU/CD32 efender of the Crown $2 £ 29.99$ CDTV/C
Grolier Ency $2 £ 99.99$ CDTV/CD32 Grolier Ency $2 £ 99.99$ CDTV/CD32
EureScene 1 £14.99 CDTV/CD32 Guinness Disk of Records 2 £39.99 CD32 Network CD \& Cable $£ 34.99 \mathrm{CD32}$ CD32 SPECIAL OFFERS Ouerkil/Lunar C £14.99 Mean Arenas $£ 14.99$ Alfred Chicken £14.99 Pinhail Fan £17.39 Gates of Jambala £17.98 Prey Alien Enc $£ 17.88$

## CAPRI CD DISTRIBUTION

 Dept AC1, 9 Dean Street, Marlow, Bueks. SL7 3AA TEL/FAX: 0628891022TRADE ENQUIRIES WELCOME hर्य
CAPRI CD DISTRIBUTI N
COTV
$75+$ CDTV titles (most compatible with C032)


## WHY PAY £e's TO REPAIR <br> YOUR A500 WHEN YOU CAN REPAIR IT YOURSELF



 Thnste Amiga ABDO.

Special Offer: Order now and receive a free diagnostic disk

Price only $£ 5.95$ including post and packing

Send cheque/PO made payable to A. Plaskett to:
A. Plaskett, Dept. AMC,

2B Meadowside, Chelmsford, Essex CM2 6LN
Tel: 0850627066

## FANTASSA PD AND SHAREWARE

SEEINCISSEIIEVING
Over SMOM disks. DE:WOS ANTMATHONS. MUSC, FRED FISH, AREG, JAM, AGA.
N.Z, GNE UTHITIES, MODEM ANI

COMALEVCATHON PROGRAM, VIDEO
GAMES STRATEGY GAMES, IECHNICA Doclements
As you can see the fist is emilless.
Priced from fop to 9gp per disk + folp P\&I Catrolugne disk 70 p or send a Hank disk +

DONT DELAY FNQUIRE TOD AY:
HI RRIC:II STREET, GOKSE: HILIL SWINDOS

 PIEASE NOTE WE ARE A \ON PROFII Hakive P.0. Hot se.

## ONLINE PD

TEL: 0704834335 NEW - PICK 'N' MIX BBS: 0704834583 From our cat. disk InI $\quad \begin{gathered}\text { choose the modules } \\ \text { samples or art you } \\ \text { require of wéll put }\end{gathered}$
 another may be chosen FREE

## HARDWARE ITEMS

 The Folowing liems include VAT \& FREE Deliveryilnsurance MODEM- High-Spec 14.4 Data/14,4 Fax, 57,600 Bps incl Amiga \& PC comms Soltware. Only E15s. HARD DRIVE-Seagate, High-Peeformance S2S MB IDE

CATALOGUE DISK
Send 21 st class stamps or 50 p or SAE for a Cat. disk
Send 2 st class stamps or 50p or SAE for a Cat. disk
isting \& descrbing 1,000 \& $\mathrm{A} \quad 1,000$ 's of Pd disks
Cheques/P. Orders payable to Online Pd, Dept. AC, 1 The Cloisters, Halsall Lane, Formby, Liverpool, L37 3PX.

## 

Untangling the problems and inner depths of your machine to mahimise its potential in all areas from music and comms to uideo and more...


А月енн $1 \exists 9$
Paul Overaa offers advice on how to create modifiable search and replace Arexx macros


Up and Funning 130
Thinking of going it alone and working
from home? Phil South gives you the full rundown


Home uiden 134
The second part of a six monthly series in which Gary Whitely explains how to mix in graphics in your home movies
(i) harempmo di tuture.?

## Publishing 151

Ben Pointer offers some helpful advice on adding a touch of class to your text

An . hamembatwh rasthe: Hos.

## Frequently asked questions

Q How do you arrange a PO Box number?

A The first step is to call your local Post Office and ask for the number of the local district Customer Services Dept. They will give you the number and you can then call Customer Services and get a run down of the current conditions and charges. It used to be $£ 80$ per year.

## Q is it worth getting VAT registered?

A You are not liable for VAT until your earnings have reached a certain level, and quite a high level at that. You can register for VAT before you reach that level but it's not advisable as you then have to charge VAT to your customers and get VAT receipts, plus you have to do your VAT returns every three months.

It's a messy business and best left alone until it becomes necessary. Your accountant can advise you on this subject.

## O should you get an accountant?

A Yes. They cost very little and save you huge amounts of tax money. Not only that, the tax office is more likely to believe your accountant that you haven't earned any money this year than they are you.

Getting an accountant costs nothing. you only pay when they do your accounts, and all through the year before and after that they are on hand to give you advice whenever you get a scary letter from the TAX or DHSS people. Accountants are worth their weight in money.

Q where can I get advice on designing my business plan? -

A Ary high street bank will have a financial advisor who will be happy to advise you on any aspect of starting and running a business.

(1)he world is changing every day and more people are taking the hint that new technology could transform their lives. Some of them are setting up offices at home, so they can spend a more relaxed time working from home once in a while. It takes the stress out of high pressure jobs and boosts productivity.

For those in high pressure jobs which don't allow working from home, the option to go freelance (and the hell with 'em) is an nice way out. But can you do this using your Amiga, and how do you start to put together a home office? Well, I can tell you because I did it:

Working from home sounds like such an idyllic thing to do, doesn't it? The fridge is only a few steps away, full of cool beers and that nice ham you got from Sainsburys the other day which would sit beautifully on that crusty bread.

You can step out in the fresh air for a second if you like, sit with your feet up on the desk, play Nuclear Trouserpress Invaders until the cows come home, right? Well, okay so you have to do work too, but you can choose when and where you do it, right?

The thing is that working from home is a blessing and a curse. You can do all of the above and more, but you also have to find work, do work, issue invoices, chase money and then start the whole degrading process


The Hewlatt Packard range of printers offers good print quality coupled with value for money


Wordsworth - one of many powerful and vital word processing packages available for the Amiga

over again. Plus you have to find the time to do your accounts, pay your tax and national insurance, maintain your equipment, figure out how much you're getting paid and if that's more or less than your outgoings, think about the future of your business and how to make it grow, and occasionally you might get a weekend off.

So let's take this slowly. First question: What do you need?

Well a computer would be nice. Oh look I've got an Amiga, will that do? Of course it will, meathead. It's the finest (and cheapest) graphically stunning, fast, multitasking computer that money can buy.

Well, that's that then, job done. Now where's the newspaper... Hold on, what if someone wants to send me a fax? Offices have them, you know.

Fax modems are all over the place, and this kills two birds with one stone. First it gives you fax capability very cheaply. Secondly it gives you a nice fast modem, which is the key tool if you wish to be a work-at-home bod or a telecommuter.

Fax modems are just like normal ones
except they have a special chip set which allows them to be used (with appropriate software) as a fax machine.

The two really worth looking at are either the US Robotics Sportster 14,400 or the Supra 14,400 Fax modem. You get a brilliant fax plus a sprightly 14,400 baud modem, and both are now under $£ 150$. It is definitely worth shelling out the extra, as slow modems cost you money in the long run.

## UOIIE MRIIL

It's worth mentioning the GVP PhonePak, as this solves a number of problems in one easy card that slips into a Zorro Slot. It's a fax machine, but it's also an answering machine and a fully configurable voice mail system. With it you can create voice mail boxes, or a fully-automated help line, for use with touch tone phones.

One of the next things you will need is a printer for sending letters, printing out headed paper and doing artwork for business cards etc. In this day and age a dot matrix just doesn't cut it as the all round

## If only I knew then

I've been running my own business now for about five years and I had to learn all this stuff from scratch. So what advice would I pass on if asked? It's hard to know where to start, really.

Okay, first and foremost: Tax and NI contributions. Pay them. Don't mess about and think you'll get the money together somehow later on. Pay your NI contribs by Direct Debit (hurts less that way) and get an accountant.

He will tell you to put $25 \%$ of everything you earn in a building society account until it's time to pay the tax man. Usually when you pay up you'll have some left over.

Work out a monthly budget. Write down on a sheet everything you need to pay out every month, then you'll have an idea how much you have to earn and still have some pennies left over to buy essentials like food and compact discs.

Then when you go out to get work you'll know how much you have to get in every SEPTEMBER 1994
printing engine.
OK, so they aren't too bad in colour, but now the price of colour inkjets is coming down you really don't have to think about them. If you want a black and white printer, go for either a Canon Bubblelet BJ20 or Hewlett Packard DeskJet 550.

In colour go for either the Canon BJ or the HP DeskJet colour inkjets, or even the A3 models from the same makers. After that you're in laser printer territory, and I hate to say it, but the Apple Personal Laserwriters look very nice for the price.
Ah, but is a big box machine necessary? A lot of this stuff seems to run on Zorro cards and the like, so do you need a 2000, 3000 or 4000 to run a home office. No, not really.

Most of the applications are just as happy in a base level Amiga as they are in a top-oftherange workstation. You can run just as good a business on a 1200 as you can on a 4000.

Once you get started with software it's hard to know where to stop. For example, do you need a DTP program like Professional Page, or will a word publisher like Wordworth or Final Copy do?

It depends really on what you have in mind. Most word publishers will be okay for correspondence lespecially with a nice inkjet printer), and perhaps a simple newsletter, but for magazines and more advanced textual flipping and jiggling, you'll need the services of a DTP program.

One tip: if you do use a DTP program, limit yourself to two fonts - one for headlines and one for main texts. This is an Amiga
Computing Instant Design Sense Tip: just add water.)

On the more serious side, spreadsheets and databases are used by a lot of homebased businesses to keep tabs on the accounts and products, if indeed you actually make something to keep tabs on.

Both the major pieces of software. KSpread
4 and Superbase 4 , incorporate the ability to


Phone-Pak - a fax, answering machine and voice mail system all in one package
import and export files to and from the industry standard programs on other. platforms, like Lotus 1-2-3, dBase and Excel. This means whatever systems are installed at the site you are working for, you can pretty much send and receive data from them. Obviously the level of compatibility only extends to a limited range of commands, but for most purposes this won't present too many problems.

## GOING OD-LIME

For example you don't use EVERY word in the English language all the time, do you? So why would you use every SOL term or 1-2-3 command?

So is it worth being on CIX and CompuServe? Being part of an on-line service is invaluable for two reasons - being able to talk to people when you're stuck at
home working all day, and for getting contacts for work. Although CompuServe is a trifle more expensive than CIX, it's worth being on Compuserve if you are in business consultancy. PR or marketing, because of the wealth of up-to-date information you can buy on all these topics.

CompuServe costs $\$ 8.95$ per month (as it's based in the US), and there are on-line charges during the day until after 7 pm when the basic connect time is free, and on top of that you have to pay for anything other than basic services on an hourly rate.

CIX has a $£ 25$ registration fee, plus a connection charge of $£ 2.50$ per hour off peak and $£ 3.60$ per hour peak rate.
It's worth being on Demon Internet too, as this has a registration fee of $£ 12.5$ plus a flat rate of $£ 10$ per month. This allows you full access to all the internet resources and

Phil South looks at the perils and pleasures, the pitfalls and problems of taking all your work home to an Amiga


Usenet News in a friendly and cost effective way.

Once you've got all the hardware and software together, the rest is up to you. The business you are in can be anything, but your Amiga will be able to help you stay efficient and cost effective.

It costs you nothing to feed your Amiga and allows you to produce a huge amount of productive work. That's the basis of a sound home office.

## what I know now

month to hit your target. Ignore this advice at your peril, as you will go under in a couple of months unless you are hitting those targets.

Make work plans. Figure out how much time each job will take and stick to it. Don't leave jobs till the last minute. Keep everything, especially receipts for stuff you buy for the business. This will stand you in good stead when you come to do your accounts.

Write down all your ideas in a big notebook. If you don't write them down you will forget them, and ideas are money in the bank.

Get an answering machine and use it'. If people can't get hold of you they won't give you the work.
And finally take notice of health issues. Sitting at a computer all day is bad for you. Take regular breaks, make sure you're sitting comfortably at the computer and that there is enough light in the room so you don't develop a squint.


For under E150, the US Robotics Spotster offors fax and modem capabilities running at 14,000 baud



©ast month we looked at the Amiga and some of the software tools needed for desktop video production. Now our attention turns to those peripherals which are essentia for getting images in and out of your Amiga. I'm fully aware that the Amiga 1200 we are taking as our example machine has both composite and RF video outputs available. and pretty good they are too.

If you simply want to record graphics from your Amiga to video tape - or just watch them on TV - then there's no reason to start worrying about buying a genlock, because you obviously don't need one.

It's when you want to start putting computer graphics over video images that you should start thinking about genlocks and, short of investing in a pretty heavy-duty vision mixer and timebase corrector (TBC) setup with good keying facilities, there's no easy way to overlay Amiga graphics onto video without one.

In order to mix graphics with video it is essential that the timing of the Amiga's video display is matched exactly to that of the incoming video signal.

This is a major part of a genlock's /short for Generate Lock) function, and works by extracting timing information from the video signal and then sending corresponding pulses to the Amiga via its external clock input in order to synchronise the computer to the video signal.

Many better-constructed genlocks don't necessarily require a video input to be present la genlock can also be used to 'encode' the Amiga's RGB output into a

## Making the connection

Connecting up a genlock is easy, but you need some extra video equipment to use one. Obviously the kind of genlock you buy depends as much on what you have to spend as the quality and features you wish to obtain.

Of the cheaper, composite video genlocks, the only one I would recommend for less than $\mathbf{£ 1 0 0}$ would be Lola Electronic's $\mathbf{L 5 0 0}$ MinigEN. If you need something a bit more flexible take a look at the £149 L100 MiniPRO lagain from Lola).

I know that the RocGen gentocks are quite popular, but I wouldn't personally recommend them as I've always found their quality and operation to be inferior to comparably-priced (or sometimes cheapert! devices.

As far as Y/C genlocks go, check out GVP's G-Lock (around £290) or Electronic Design's Y/C Genlock (£399), both of which offer pretty good value for money nowadays. Of course there are also other models available.

## Picture in

signal which can be recorded by a VCR) because they have what is known as a free run' mode.
However, it is usually better to feed the genlock with video so that it really does get the proper timing signals. Cheaper, and less well-designed genlocks require a video signal to be constantly present - which can be a pain if you don't otherwise need to have one available.

Once the Amiga is locked to the video signal the next operation a genlock performs is to overlay the Amiga's graphics onto the incoming video images.

## HEY cIIDUR

This is done by "keying" - in other words by replacing certain areas of the Amiga graphics with video images - usually by using a designated colour as the key colour.

The most commonly-used key colour is palette Colour Zero - the first colour in any Amiga colour palette. This is the default background colour in Deluxe Paint and most other graphics and presentation programs, and is often black or dark blue though the actual hue doesn't matter in the least).

A genlock reads the information coming out of the Amiga's Zero Detect line, and every time it finds that a pixel contains Colour Zero it quickly switches the output signal to the video image, rather than the non-Colour Zero Amiga graphic which would otherwise be output from the genlock.

This switching occurs very rapidly as the complete video screen is scanned from top to bottom every $1 / 25$ th of a second, and results in the Amiga graphic being keyed (or, more correctly, key switched) over the video images. More sophisticated genlock

effects are also possible, and circuitry can be incorporated to produce Inverse Keying (video only shows where non-Colour Zero graphics occur), user-controlled fading between graphics and video, and also the ability to select palette colours other than Colour Zero to be the key colour.

Some genlocks even incorporate simple wipe patterns, but to my mind these are mostly relatively expensive gimmicks which have little or no real artistic value.

One important aspect of choosing a genlock is to ensure that it is compatible with both your Amiga and your video equipment. As far as the A1200 goes it is only possible to use external-mounting genlocks with it, ruling out those models
which mount internally into the box-shaped Amigas - the 1500/2000/3000/4000 ranges.

If you have S-VHS or Video 8 equipment you should obtain a genlock with Y/C connections in order to obtain the best possible quality. If not you'll probably end up with a composite-only one which will tend to degrade your video images, making them muddier and hence somewhat less viewable.

I guess there have been times when you've wondered how you can capture an image and then use it in an Amiga graphics or animation program.

In fact, there are a couple of different ways of doing this - namely video digitising

(1) Mrs unam a tume.o. Au Aunlichuman's hour was hits captle.

# and picture 




Grabbed images can be used in graphics, animation, 3D, presentations and even DTP work. Here a grabbed image has been embossed and incorporated as a background.


Connecting a digitiser is no problem. But you do need a good video source, particularly
when using slow scan digitisers.
and image scanning. As we are particularly interested in capturing from video III just mention that scanning involves reading a printed image with a device somewhat akin to a reversed photocopier which converts the image into digital data that a computer can understand.

A good flat-bed scanner, along with the software to drive it, can easily cost over $£ 800$, so scanners aren't likely to be a popular item amongst stony broke video makers.

## DIIITIGERS

On the other hand, while quite cheap, hand-scanners are unlikely to provide either the image size or quality needed for video work, so the only viable alternative is a video digitiser.
Like genlocks, digitisers come in a range of flavours and prices. The cheapest ones start at well under $£ 100$ and offer reasonable-looking grabbing (as it is often known), but at the expense of quality and speed - and they
require a video deck with a rock-solid freezeframe.

However, not everyone needs top-quality images and with an AGA machine such as the AI200 the results can still look excellent. So if your budget is tight, and you want $\mathrm{Y} / \mathrm{C}$ compatibility, consider Rombo's Vidi Amiga 12 as a good bet.

If you want better quality land you should think about adding more RAM to your A1 200 if that's the case - then a fast scanning, highquality digitiser should do the trick.

Fast scan digitisers can grab a whole frame of video in real-time because of special memory incorporated into them, whereas slow scan models only grab a chunk at a time.

Rombo offers two fast scan models - the Vidi Amiga 12RT (£199) and the 24RT (£299). the main difference being that the 12RT cannot grab in interlaced modes.

Again, with an AI 200 this probably doesn't matter much and you'll save $£ 100$ by

Typically, a genlock allows you to overlay graphics onto video Images, as illustrated here. A text image is mixed with a video image, resulting in text on video!
buying the 12RT. There is also an external version of MacroSystem's VLab card the VLab PAR - £382| which costs a bit more than the Vidi Amiga 24RT but doesn't have a Y/C input.

The better digitisers can also grab sequences of frames, though not at full speed, so if you want to do effects such as automatic time lapse then these are for you.
The Vidi software includes image processing and format conversion routines to help knock the images into the size and look you require. Once you've grabbed an image you can incorporate it into any of your graphics work, provided it is saved in a suitable format.

All the digitisers mentioned above can save IFF files as standard, so this shouldn't be a problem. You could import the image into DPaint and incorporate it into an anim |though this will most likely require extra RAM), or use it as the basis for a video title screen.
If you have a program like ADORage you can make a neat animation by chopping the image into little bits and reassembling them automatically after putting them through some very fancy moves.
Captured images can also be used in desktop presentations and DTP (maybe you'll want to print some videocassette sleeve inserts for your finished tape), as well as output through your Amiga/genlock setup back to tape as part of your video production.
Well that's all for this month. Next rill be looking at what you need to get started on the home video trail.

- Gary Whiteley can be contacted by e-mail on drgazåcix.compulink.co.uk.


## The costs

Last month we costed a basic Amiga setup as follows: Amiga 1200, £290; RGB monitor (e.g. Commodore1084S). £200; second disk drive, £50. Total around £540.

Additions this month: Genlock from $£ 70$ to around $£ 400$; Digitiser from $£ 70$ to around $£ 400$.

Next month we'll be adding some video equipment

## Home video Pat2



## Jargon buster

Composite Video: a 'single wire video signal containing all the necessary brightness, colour and sync information in one combined signal.
Pixel: the smallest 'building block' of a computer graphics screen. Pixel size varies according to the screen's resolution.
RF Video: a combined video and audio signal such as that which arrives at your TV through the aerial cable or from the modulator output of your Amiga.
RGB Video: the Amiga's internal video format, consisting of the three colour components that make up an image. RGB has to be converted (encoded) into standard video signals by either a genlock or encoder for use in the outside world.
Y/C Video: a superior quality video signal where the colour and brightness information are kept separated to provide better-looking pictures. As used in S-VHS and Video 8 systems.

# com 



AMIGA 1200 PACKS 32-bit 68020 full power Two joysticks \& mouse Free paint package software Mouse Mat
A1200 Standalone.... A1 200 with 20MB HD £274 A1200 with 40 MB HD A1 200 with 60 MB HD A1200 with 80 MB HD . A 1200 with 120 MB HD A1200 with 210 MB HD Combat/Innovations pack add to above.... 499


CD ${ }^{32}$ Dragon Street, Wing Commander, OSCA, Diggers.. New full motion video, allows video CD's to be played on the CD ${ }^{32}$.......£197 Lead for CD ${ }^{32}$ to 1085 monitor ... $\mathbf{£ 1 4 . 9 9}$

## AMIGA 600

A 600 Wierd, Wild \& Wicked pack Includes Deluxe Paint 3, Microprose Grand Prix, Silly Putty, Pushover and further free software
A600 W,W \& W $\qquad$ A600 W,W \& W with 20MB HD .... $£ 276$ A600 W,W \& W with 80MB HD.... $£ 359$ A $600 \mathrm{~W}, \mathrm{~W} \& \mathrm{~W}+1.3$ ROM. $£ 218$


Ergonomically sound Facilitates up to three external floppy drives
Made in the UK
Strong and robust Aesthetically pleasing Keep your desk neat and tidy Supplied complete and assembled with free mouse mat

## A500 Workstation .............................. $£ 29$

 A 600 Workstation. £26$\mathbf{E 2 9}$ A1200 Workstation Workstation coverall dust covers........ $\mathbf{£ 7}$ Mouse House........................................ $\mathbf{E 4}^{2}$ Only $£ 20$ when bought with an A1200


Easy to install $2.5^{\circ}$ upgrade kits Full instructions and cables where necessary All drives supplied with formatting instructions and software Free fitting available - phone for details 20MB HD upgrade kit........................ $£ 85$ 40MB HD upgrade kit...................... $£ 109$ GOMB HD upgrade kit...... 85MB HD upgrade kit.... E128 120 MB HD upgrade kit. £199 210MB HD upgrade kit... ...£229
HIGH CAPACITY HD'S These prices include collection, deliver and free fitting, all guaranteed $3.5^{\prime \prime}$ drives. Phone for details. $250 \mathrm{MB} £ 199340 \mathrm{MB} £ 259540 \mathrm{MB} £ 379$
$\square$


100 Capacity lockable disk box .... $\mathbf{£ 5 . 9 9}$ Squick mouse. £13.99 Mouse mat - ............................99 TDK high quality DSD (10) disks .. $£ 7.99$ Computer Mall DSD (10) disks. Megagrip 2 joystick.
$\begin{array}{r}\text {........ } \\ \mathbf{£ 6} \\ \hline 13.99\end{array}$ Apache joystick.. $\qquad$ £6.99 Python joystick. $£ 9.99$ 200 Capacity stackable disk drawer.. $£ 12.00$ Zi-Fy Pro Speakers A500/A600/A1200 dust covers... A500 modulator. ... $£ 53$ .... $£ 36$ Amiga First step book...........................99 4-Way mains extension block .......£7.99 TV RF lead... A500 internal replacement drive...... $\mathbf{£ 3 9}$


AMIGA 4000 PACKS
AGA chip set
68030/40 processor Co-processor option $2 \mathrm{MB} / 4 \mathrm{MB}$ RAM

A4000 030 with 0 MB HD \& 4 MB ........... $£ 829$
A4000 030 with 120 MB HD \& 4 MB ...... $£ 949$
A4000 030 with 250 MB HD \& 4MB ..... $£ 999$
A4000 030 with 540 MB HD \& 4 MB ... £1199


High quality memory expansion Easy to fit full instructions
Co-processor option
ProRAM 1200 simply slots into the expansion port under the trap door

| ProRAM 12002 MB ............................. $\mathbf{£ 1 3 6}$ |
| :--- |
| ProRAM $12004 \mathrm{MB} . . . . . . . . . . . . . . . . . . ~$ |
| 189 |

ProRAM 12004 MB .


## ProRAM PCMCIA A600/A1200

2MB.
$£ 109$
ProRAM 1MB A600............................. £159

20 MHz FPU
33 MHz FPU
$£ 32$
..£24
40 MHz FPU
.. $£ 79$
SOMHZ FPU....
...£149


Allows image processing in a useful and unique fashion
Comes complete with manual
One of the fastest growing applications for home and professional users High specification coupled with cost effective pricing
64 greyscales $100-400 \mathrm{DPI}$
Fully compatible with Deluxe Paint 4 Advanced software

## Power Scanner 4 .

£116
Power Scanner colour 4 Epson GT-6500 (inc. software) ........ $£ 589$

$14^{\text {" }} \mathrm{Hi}$-Res colour display Complete with cable Includes integral stand Full UK warranty

Sharp DV 3750 monitor/TV............. $£ 164$ Philips 14155A monitor/TV.............£184 Micro Vitec .281438 inc. stereo .... $£ \mathbf{£ 2 8 7}$ A1 200 SVGA Monitor ..................... $£ 228$ (display hi-productivity modes, not default)

Commodore 1940
. $£ 284$
Commodore 1942.
Tilt \& Swivel stand. $\qquad$
Monitor dust cover.... $\qquad$
1.5 m monitor ext. cable .................................99
(Simply add $£ 28$ for workstation of your choice
when purchasing the above)


Swap between Kickstart chips
Fits A500, A500+, A600, A1500
Auto swapping via keyboard control Flexible cable allows the swapper to work in conjunction with accellerators Simple to fit - full instructions

Pro ROM Swapper ............................ $£ \mathbf{£ 1 8}$
Pro ROM Swapper +1.3 ROM $\ldots . . . . . . £ 35$
Pro ROM Swapper +2.04 ROM $\ldots . . . . . £ 40$

## KICKSTART ROMS

Kickstart ROM 2.04
£24
Kickstart ROM 1.3.
Kickstart ROM $2.05 \ldots . . . . . . . . . . . . . . . . . . . . . . . . . ~ £ 42$
$£ 17$



Allows the addition of peripherals without damage to computer or power supply
Why risk damaging your expensive kit when one simple investment will ensure total peace of mind now and for the future
Switch mode design Full crow bar projection British made
A500 Power supply unit......... $£ 44.95$ A1200 Power supply unit ......... $£ 54.95$ A600 Power supply unit .......... $£ 44.95$ A590 Power supply unit .......... $£ 44.95$ GVP HD Power supply unit ..... $£ 49.95$ CD32 Power supply unit...
.$£ 44.95$

High Quality Renowned and proven reliability Anti-click
Long moulded cable
Slimline design
High impact plastic
Cumana external drive ..........
Cumana external drive +100
Cumana external drive +100
capacity disk box ................
capacity disk box Cumana external drive +100. capacity disk box 20 blank disks. A500/A500+ Internal replacement disk drive A600/A1200+ Internal replacement disk drive. A2000 Internal replacement disk drive


PRO AGNUS 2MB Provides a full 2 MB of Chip Memory for the Amiga 500 and A1500/2000 * Designed and built in England • Supplied with 8375 Obese Agnus • Includes 2 MB Memory on board in the form of low power Zips • Allows the processing of elaborate animation and sound sampling $\bullet$ Provides the same max. chip memory as the A1200/A4000 \& $500+$ - Increases addressable memory space from 9 MB to 10 MB - Complete with full instructions and flying leads - British made
Pro Agnus 2MB. (free fiting available - phione for details)
 do the rest. Alternatively write the above details on your letter when ordering by post. When ordering by post in cheque form please write your cheque card guarantee number on the reverse of the cheque and send along with your order. Postal orders are also accepted. MINIMUM ORDER AMOUNT $£ 15.00$
NO DELIVERY CHARGES TO UK MAINLAND. Should you wish your order to be sent by courier service please add $£ 5$. this method secures the item with full insurance, not express. WARRANTY: One year warranty return to base. ONE YEAR EXTENDED WARRANTY: Available on all products at $10 \%$ of purchase price when ordering.

## Where to find us!

## Head Office WTS Electronic Ltd Chaul End Lane Luton <br> 0582491949 <br> Computer Mall Bedford <br> The Harpur Centre Bedford 0234218228

Computer Mall St.Neots
Priory Mall Shopping Centre St.Neots 0480471117

Computer Mall Hertford 49 Railway Street Hertford 0992503606

Computer Mall Dunstable 84 High Street North Dunstable Bedfordshire 0582475747

CUT，TICK \＆POST．．．CUT，TICK \＆POST．．．CUT，TICK \＆POST
CUT，TICK \＆POST．．．CUT，TICK \＆POST．．．CUT，TICK
TELEPHONE（0702） 466933 FAX 617123
PD Soft 1 Bryant Avenue，Southend－on－Sea， PD Soft 1 Bryant Avenue，South
ESSEX，SS1 2YD


－



## P2

## 



 －－

| ＜GOLD DISK CDS000＞ ant mb of sortware | Fonts \＆Clipart $£ 19.99$ The Protessional CD |
| :---: | :---: |
| demotipema | ， |
|  | Hemmer 2 2mo |
|  |  |
|  |  |
|  |  |




##  <br> （2002

## 


 2

$\qquad$

## 都

帾都

## 

## 帾



## 낙

$\qquad$
Cunt inumen
ETO
撞童

－－

|  | Numisimitumain |  |
| :---: | :---: | :---: |
|  |  | Some orum |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  | 3． |  |
|  |  | \％．2ik－bun |
|  | －． | 5\％ |
| Trizt fumb | biua | － |
| ${ }_{2 \times 2}$ | 3． 2.2139 maxilut |  |
| 5．viriz |  | \％2mis onioum |
| ） 3 3－ | －．．．visi toworo | Prex |
|  | axiviz crammosatus | aboer |
|  | 3 Manjerut | comome |
| \％ivizaza |  |  |
|  | \％xiviso micieiu |  |
| 5 | 5．．vizes nciom |  |
|  |  |  |
|  |  |  |
| Tix mizu suit | mast |  |
|  |  |  |
| Viza stockrpa | $3 \times$ wiss moentions |  |
| 50．simow | vis3 crizom |  |
|  | 36＂ 16 |  |
|  |  |  |
| \％or |  |  |
|  | Humamem | Situbib |
| Stamame wium | \％ |  |
|  |  |  |
|  |  | Sunin uiva |
| Qiew wras ommes skits | 1302 | 5. |
|  |  |  |
|  |  |  |
| － | － | Hoa |
|  | ， |  |
| Tvio | P＋＋rise manozamo |  |
|  | 7－1．vasiovit | viamal |
|  | Wibioc citile | etro |
| insis | 2invie |  |
|  |  |  |
|  | O．x．mim（exth | ］m cuss |
|  | mex | 30．334 un weroi |
|  |  |  |
|  |  | 5． 3354 mankio |
| Vizas pramitero | ，．indo jubios | 52： |
| Hamo | Visac coneio | 2 2 |
| 2memexim |  |  |
|  |  |  |


| Yaramer | 1 |
| :---: | :---: |
| Pam cose 1 |  |
|  |  |
| Immorticis | ， |

0ne of the great things about wordprocessors and text editors which have ARexx interfaces is that it's possible to create sophisticated search and replace facilities by building the appropriate macros.
You might for instance have some documents that contain dimensions and weights which need to be converted to their metric equivalents, weights in lbs to kilos for example and this would mean not only changing the 'lbs' units to 'kilos' but also altering the numerical values by dividing each weight by 2.205 (since $2.205 \mathrm{lb}=1$ kilo).

Feet/inches to centimetres, pints to millilitres etc., there are hundreds of situations where similar types of conversion can be useful.

Moreover, when you have documents that include, say, tables containing a whole set of values that need converting, then it is obviously better to have the process automated because the chance of errors being introduced is eliminated once a tried and tested conversion macro is available for use.

It is, however, only worth creating macros to do this sort of thing if you can write the macro quickly enough to make it an economic proposition time wise.

The trick here is to have ready-made fragments of code available that you can copy and modify to do particular jobs and the example code this month is just such a piece of code.

## PATEERI

It's a procedure called ModifyBlock(] that can be given a block of text along with the units to be changed, the name of the replacement unit and an appropriate conversion factor, and it will return the block with the desired changes in place.

Once you've got the general idea, creating your own specialised procedures for doing this type of thing is not hard because the guts of the routines tend to follow the same pattern.

Split the text up into words, search for the word or words that you are interested in, convert them, and then reassemble the text block. If the conversion to be performed is not straightforward enough to be written with a few lines of code, it is probably better to write a separate procedure for the conversion function and then call that from the generalised code that isolates the individual words.

Don't forget that compound variables, such as word $\$ . i$ and word $\$ . j$ in the example routine can always be used as parameters for other procedures.

You could, if desired, extend this month's example code by passing and collecting the isolated number and unit values using these types of statements:

```
words.isthangeVord{(words.i)
vords.j=ChangeVord2(words.j)
```

Isolating the conversion-specific code is actually quite a good idea because you don't then have to make any changes to the structure of the parts of the routine that identify the required words in the text.

# Tlacros built for change 

If you were a teacher with a whole series of maths tests on disk involving conventional base 10 arithmetic and you wanted to create a macro that could automatically convert all the test paper sums and answers tó base 2 or some other base, the idea would be to pass the identified numbers to a specialist routine that returned the converted value like this:

## vords. istonverthunber(vords.i)

For illustration purposes l've just coupled the ModifyBlock|) procedure to a short test program that passes some example text containing a couple of 'lbs' values and gets the values converted to kilos.
In your own programs you would, of course, use your editor's (or word-processor's) own ARexx-specific instructions to collect lines or paragraphs from the document being edited.
Incidentally, don't get thrown by the dollar $|\$|$ signs at the end of some of my variables this is just a convention that I use on those occasions where variables are clearly used for
text strings. The variable used to hold a block of text is therefore labelled blocks. whereas the variable used to hold the value for unit conversion (conceptually a number) is called conversion_factor.

ARexx variables are, of course, typeless and internally ARexx treats all such values as strings anyway. Nevertheless, I find that adding a little pseudo-type information serves as a useful purpose during the development of ARexx code and you'll see this convention used in all the code I write.

Talking of code, you'll see that I've chosen a very obvious way of looking for values to change in this month's example. Look for a number and then check to see whether the subsequent word indicates the correct units.

It works but there is one improvement that can cut the execution time of the routine in half. If you like puzzles then have a think about the current version of the code and see if you can spot the change to be made before the next issue let's you in on the secret!

## Value changing

# E.M.COMPUTERGRAPHIC <br> THE U.K.'S NUMBER 1 AMIGA FONT AND CLIPART DISTRIBUTORS . AMIGA COMPUTING ISSUE 52 

BITMAPPED CLIP ART


#### Abstract

   


## UERY HIGH QUALITV IFF CLIP ART


EMC Volume 34 - 5 Disks - 144.00 - IFF Animais 1

EMC Volume 3ny ioniky Ezoo, FFFTrantpoy
EMC Volume $37-5$ Disks - 814.00 al FF Business
Cimc Volume $38-5$ Disks - Ex4.00 - IFF Fantasy,





EMC Volume 44 - 6 Disk . 816.50 . IFF Education 1



EMC Volume some 6.

EMC Volume 52 2. 5 Dikhe -814.00 : IfFF Animals 3





















EMC Voume 7 . 5 . Disk : 141400 . IFF Various 6

EMC Voume 162.6 Difs . 16.50 .lfF Kidssit



EHMC Volume 166 . 5 Disk Elitio.






OTHER FONTS AND (LIPART

 EMC Vol 21 - 6 Disks. E16.50. PCX Clipart EMC Vol 32. 6 Disk EMC Vol 33.6 Disks - 16.50 - ima Clipart EMC Vol $48-5$ Disks. E14.00 -Colorfonts EMC Vol 49.5 Disks- E14.00 - Colorforns EMC Vol $18=5 \mathrm{D}$ sks - E16.50-60 PDraw Fonts EMC Vol 19.5 Disss - E16.50-63 PDraw Fonts EMC Vol $20-5$ Disks - E16.50-50 PDraw Fonts Typesmith Demo Disk $£ 3.50$ Pagestream2 Demo Disks $£ 6.99$ Opalvision Update Disks $£ 6.99$

## 256 IFF COLOUR GRAPHIES FOR AGA AND 24 BIT AMIGAS

## 

EMC Volume $88-6$ Disks - $816.50-256$ Cars 1 EMC Volume 89 . 6 Disks - $16.50-256$ Cars 2 EMC Volume . 90 - 6 Disks. . $16.50-256$ Planes 1
 EMC Volume 9 ? 5 Disks $\mathbf{E 1 4 . 0 0 - 2 5 6 ~ S p a c e ~}$ EMC Volume e3 ${ }^{-5} 5$ Disk $-{ }^{E} 14.00-256$ Space 2 EMC V Volum $94=5$ Disks. EL14.00-256 Women EMC Yolume 95.5 Disks 514.00 - 256 WildCats EMC Volume 96 . 6 Disk. 1 . 11.50 - 256 Horses 1 EMC Volume 97.6 Disks. $\mathcal{C 1 6 . 5 0 - 2 5 6 \text { Horses } { } ^ { 2 }}$ EMC Volume 98 - 5 Disks - $1444.00-256$ Dogs 1 EMC Volume 99 . 5 Disks ${ }^{14.00}-256$ Dogs 2 EMC Volume $100-6$ Disks - $£ 16.50$ - 25 Cats 1 FMC Volume $101-6$ Disks Ec16.59 5256 Cats 2 EMC Volume 102-6 Disks- E16.50-256 WaterLife EMC C Volume 103 - 6 Disks . 116.50 . 256 Sun \& Sea EMC Volume $104-6$ Disks. - E16.50- 256 Animals EMM Volume 105 . 6 Disks. E16.50. 256 Animals 2
 EMC Volume 107,6 Disks - 16.50 - 256 Animals 4 EMC V V Puume $108-6$ Disks. $\mathcal{E 1 6 6 5 0} 50$ - 256 Panorama 1 EMC Yolume 109 - 6 Disks- $E 16.50 .25$ Panorame 2 EMC Volume 110.6 Disks - 16.50 .256 Panorama 3 EMC Volume $111-6$ Digks- E16.50-256 The Sun EMC Volume 112-5 Disks. E14.00-256 World People EMC Yolume $113-6$ Disks. $E 16.55-256$ America EMC Volume 114-6 Disk. E16.50-256 Castles EMC Volume $115-6$ Disks, $\mathbf{E 1 6 6} 5.50 .256$ Th World EMC Volume 116-5. Disks- E14.00-250 Birrds EMC Volume 117 - 5 Disks : E14.00 - 256 Birds 2
 EMC Volume $111-6$ Disks - $\mathbf{E 1 6 . 5 0 - 2 5 6 \text { Fantasy } 1}$ EMC Volume 12.6 - 6 Disks 16.50 - 256 Fantasy 2 EMC Volume $121-6$ Disks- E16.50-256 The Movies EMC Volume 122. 5 Disks. $514.00-256$ Renders 1 EMC Volume 123 - 5 Disks. E14.00-256 Renders 2 EMC Volume $124-5$ Disks. - $14.00-256$ Renders 3 EMC Volume $125-5$ Disks- - 14.00 - 256 Girls 1 EMC Volume $126 \cdot 5$ Disks - E1 $^{14.00-256 \text { Girls } 2}$ EMC Volume 127-5 Disks- $144.00-256$ Girls 3
 EMC V Vlumen 129 . 5 Disks. E14.00-2 256 Swim Suits EMC Volume 130 5 Disks - 144.00 - 2 . 56 Bilikinis EMC Volume 131-5Disk. Et10.0. 2568 Beach Girls EMC V Vlume 132 - 5 Disks. E 14.00 - 256 Lingerie
 EMCVolume 134-5.5isks- E14.00- $^{256}$ Various 1
 EMC Volume $136 .-6$ Disks - E16.50-25 Classic Cars
 EMC Volume 138-6 Disks- $816.50-256$ Fast Cars EMC Volume 139-6. Disks - E16.50-25 Racing EMC Volume 140 - 6 Disks- $\varepsilon 16.50-256$ Boats


 EMC Volume $144-5$ Disks - 514.00 - 256 Trains 4 EMC Volume $145-6$ Disks - $16.50-256$ Military EMC Volume 146. 6 Disks- $116.50-256$ Flight

MORE 256 IFF COLOUR GRAPHIES FOR HGA AND 24 BIT AMIGAS'
EMC Volume 147-6 Disks - 516.50 - 256 Jet Fighters
 EMC Yolume 149 - 6 Disps. $£ 16.50-256$ WaterLife 2 EMC Volume 150 - 6 Disks- E16.50- 256 Travel EMC Volume 151 - 5 Disks. E14.00- 256 NASA 1 . EMC Volume 152 - Disks - $144.00-256$ NASA 2, EMC Volume $153-6$ Disks - $516.50-256$ Babes 1, EMC Volume $154-6$ Disks- $£ 16.50-256$ Babes 2 EMC Volume $155-6$ Disks $-516.50-256$ Babes 3 . 3 . EMC Volume $156-6$ Disks - $£ 16.50-256$ Babes 4 EMC Volume $157-6$ Disks - $£ 16.50$ - 256 Babes 5 EMC Volume $158-6$ Disks. $£ 16.50-256$ Hunks EMC Volume $159-6$ Disks $-\mathbf{E 1 6 . 5 0 - 2 5 6}$ Various 2 EMC Volume $160-6$ Disks - $1616.50-256$ Various 3 EMC Volume 161-6 Disks. E16.50- 256 Various 4 EMC Volume $208-6$ Disks - $\mathcal{E 1 6 . 5 0 - 2 5 6}$ Robots EMC Vozume 2 - -6 Disks -1616.50256 Heavy Metal EMC Volume $210-6$ Disks - $\Sigma 16.50-256$ Star Wars EMC Volume $211-6$ Disks - $16.50-256$ Night Breed EMC Volume 212. 6 Disks - E16 50.50 . 256 OS9 1 EMC Volume $213-6$ Disks. $£ 16.50-256$ DS9 2 Nine EMC Volume 214 - 6 Disks. $£ 16.50-256$ DS9 3 . EMC Volume $215-6$ Disks. $£ 16.50 .256$ DS9 4 EMC Volume $216-6$ Disks - $516.50-256$ DS9 5 EMC Volume 217 - 6 Disks. - E16.50 -256 TNG,
Oualiy pletures and artwork trom Star Trek. The Noxi Go EMC Volume 218 . 6 Diviks - 16.50 - 265 TVG EMC Volume 219. 6 Disks - E16.50 256 TNG 3 EMC Volume $220-6$ Disks $\mathbf{E 1 6 . 5 0}-256$ Star Trek 2 EMC Volume 221-6 Disks - $16.50-256$ Star Trek 3 EMM V Volume 222 - 6 Disks - 116.50 - 256 Conan
EMC Volume 223-6 Disks - E16.50-256 Dr Who EMC Volume 224-6 Disks - $\mathbf{E 1 6 . 5 0 - 2 5 6 \mathrm { TV } \text { -Scifi }}$ EMC Volume $225-6$ Disks- 116.50 - 256 D. Lance 1 EMC Volume 226 - 6 Disks- $\varepsilon 16.50$ - 256 D. Lance 2 EMC Volume 227-6 Disks \&16.50-256. BorisV 1

 EMC V Volume $230-6$ Disks. $816.50-256$. BorisV 4 . EMC V Volume $231-6$ Disks - $£ 16.50-256$ BorisV 5 . EMC Volume $232-6$ Disks. $£ 16.50 .256$ BorisV 6 . 6
 EMC Volume $234-6$ Disks - E16.50 2566 BorisV 8 EMC Volume 235. 6 Disks . $\operatorname{E16.50} .256$ Kelly 1 EMC Volume 236 - 6 Disks. E11.5.5-256 Kelly 2 EMC Volume $237-6$ Disks. $\mathcal{E 1 6} .50-256$ SciFI Art 1 ,
 EMC Volume 239-6 Disks. $£ 16.50-256$. Woodroffe EMC Volume 240 - 6 Disks - $£ 16.50-256$ Movies 2 EMC Volume 241.6 Disks $\mathrm{E} 16.50-256$ D\& D EMM Volume 242-6 Disks $\mathbf{- 1 1 6 . 5 0} .256$ Fantasy 3 EMC Volume $243 .-6$ Disks - E16.50-256. White 1
 EMC Volume 245 . 6 Disks - $16.50-256$ White 3
Soectacular antworky tine tenowned tantasy antist Tim White.

## VIDEOGRAPHERSEMC are teaming up witha l leading

 seminurss covering all a spects of Amiga related vidco p produ and post production for the beginner, semi-pro and full Pro. If you are interested, send an SAE along witha brief letter detailing
## TYPE I FONTS

Comparible with Pagestream, The Publisher, Final Copy2 rel2, Final Writer etc.
EMC Vol 4 - 5 Disks - £14.00-67 Typet's EMC Vol 5 - 5 Disks - £14.00-63 Type1's EMC Vol 6 - 5 Disks - $£ 14.00$ - 83 Typet's EMC Vol 7 - 5 Disks - £14.00-68 Type1's EMC Vol 16 - 5 Disks - £14.00 - 76 Type1's EMC Vol 17 - 5 Disks - £14.00 - 79 Type1's EMC Vol 27 - 5 Disks - £14.00-56 Typet's EMC Vol 29 - 5 Disks - £14.00 - 80 Type1's
NEW TVPE I FONT VOLUMES
EMC Vol 77 - 5 Disks - £16.50 - 78 Typet's EMC Vol 78 - 5 Disks - $£ 16.50-69$ Typet's EMC Vol 78 - 5 Disks - $\mathbf{\Sigma 1 6 . 5 0 - 6 9}$ Type1's
EMC Vol 79 - 5 Disks - 16.50 - 84 Typof's EMC Vol 79 - 5 Disks - $£ 16.50-84$ Type1's
EMC Vol 80 - 5 Disks - $£ 16.50-71$ Type1's EMC Vol 80 - 5 Disks - $£ 16.50$ - 71 Typet's
EMC Vol 81 - 5 Disks - 16.50 - 106 Type1's

## CG SCALABLE FONTS

## 

EMC Vol 8 - 5 Disks - $£ 16.50-61$ GGFonts EMC Vol 9 - 5 Disks - $£ 16.50$ - 64 CGFonts EMC Vol $10-5$ Disks - $£ 16.50-57$ CGFonts EMC Vol 23 - 5 Disks - $£ 16.50$ - 58 CGFonts EMC Vol 24 - 5 Disks - 16.50 - 64 CGFonts EMC Vol 25 - 5 Disks - $£ 16.50$ - 66 CGFonts EMC Vol 26 - 5 Disks - $£ 16.50$ - 71 CGFonts EMC Vol 30 - 5 Disks - $£ 16.50$ - 59 CGFonts EMC Vol 31 - 5 Disks - £16.50-60 CGFonts

## new eg scalable fonts

EMC Vol. 82 - 5 Disks - $£ 16.50-53$ CGFont EMC Vol. 83 - 5 Disks - £16.50 - 48 CGFonts EMC Vol. 84 - 5 Disks - 16.50 - 46 CGFonts EMC Vol. 85-5 Disks - £16.50-46 CGFonts EMC Vol. 86 - 5 Disks - $£ 16.50$ - 34 CGFonts EMC Vol. 87 - 5 Disks - £16.50 - 38 CGFonts

## PICK 'N' MIX SERUICES' We affer you not one....but TWO Pick $\mathbb{N}^{\prime}$ Mix Serv This sowice unT PICK N' MX FONT SERVICE   CLIPART PICK 'N MIX SERVICE   

## SCANNING SERUICE

HAVE YOU EVER NEEDED SOME ARTWORK SCANNING? TO GET YOUR ARTWORK ON PAPER? EVEA WANTED TO USE ONE OF YOUR FAVORHTE PHER WANTED TO SMAAMEN UP YOUR VIDEO We have ofloreq tris sorvce to cuslomens who have shed, for
Weer a


50 DPI TO 600 DPI - IN ANY FOAMAT FROM MONOCHROME TO 24 EIT
We provido frichod scins, on dsk, in standard iff tig tormats
FOR MORE DETAILS...GIVE US A RING!

## EES 16 COLOUR IMAGES FOR ALL AMIGAS


YOU WONT BELIEVE THAT TRESE MAGES ONLY CONTAIN 16 COLOURS EMC Volume 173-6 Disks - £16.50-ECS Chicks 1 EMC Volume 174-6 Disks - £16.50 - ECS Chicks 2 EMC Volume 175-6 Disks - £16.50 - ECS Chicks 3 EMC Volume 176-6 Disks - £16.50-ECS Chicks 4 EMC Volume 177-6 Disks - $£ 16.50$ - ECS Chicks 5 EMC Volume 178-6 Disks - £16.50-ECS Panorama EMC Volume 179-6 Disks - $\mathbf{\Sigma 1 6 . 5 0}$ - ECS Panorama 2 EMC Volume 180-6 Disks - £16.50 - ECS Panorama 3 EMC Volume 181-6 Disks - $£ 16.50$ - ECS Panorama 4 EMC Volume 182-6 Disks - £16.50. ECS Space 1 EMC Volume 183-6 Disks - £16.50 - ECS Space 2 EMC Volume 184-6 Disks - £16.50 - ECS Cars 1 EMC Volume 185-6 Disks - £16.50 - ECS Cars 2 EMC Volume 186-6 Disks - £16.50 - ECS Aircraft 1 EMC Volume 187-6 Disks - £16.50 - ECS Aircraft 2 EMC Volume 188-6 Disks - £16.50 - ECS Animals 1 EMC Volume 189-6 Disks - £16.50 - ECS Animals 2 EMC Volume 190-6 Disks - £16.50 - ECS Animals 3 EMC Volume 191-6 Disks - £16.50-ECS Animals 4 EMC Volume 192-6 Disks - $£ 16.50$ - ECS Dogs \& Cats EMC Volume 193-6 Disks - £16.50 - ECS Dogs \& Cats 2 EMC Volume 194-6 Disks - $£ 16.50$ - ECS Famous People EMC Volume 195-6 Disks - £16.50 - ECS Military EMC Volume 196-6 Disks - £16.50 - ECS Motor Racing EMC Volume 197-6 Disks - £16.50-ECS Trains EMC Volume 198-6 Disks - £16.50 - ECS WaterLife EMC Volume 199-6 Disks - $£ 16.50$ - ECS World 1 EMC Volume 200-6 Disks - $£ 16.50$ - ECS World 2 ,

## I/N (OMPUTER SAFARI

Desktop Publishing Typefaces
E.M.C. are the exclusive UK and European distributors for the HIGHL Y ACCLAIMED commercial Computer Safari range of DTP Typefaces. Safani fonts are of exceptional quality, contain
FULL character sets and have been highly praised in the UK FULL character
Amiga press.
Amiga press.
For those of you that have already purchased, or have
For Mose of you that have already purchased, or have
information on the Safari fonts, we would like to inform you that information on the Safan fonts, we would like

I6 COLOUR CLIPART FOR AIL AMIGAS
This VERY HIGH QUALITY colour clipart is suitable for use with AL
Ampa programs that syppport the use of colour glipart including
Pagestrean PRage ESetter Wordworth Final Cony Final Writer Penpal, Kindwords, Photon Paint DigiPaint, DPaint Scala Nto All disks, except the disks on EMC Volume 204, contain specia Alf disks, except the disks on EMC Volume 204, contain special
IFF index thumbnail screens. Simply double click on the "Disk IFF index thumbnail screens. Simply double click on the
EMC Volume 201-6 Disks - E16.50-CCA Animals 1 EMC Volume 202 - 6 Disks - E16.50- CCA Animals 2 EMC Volume 203 - 6 Disks - £16.50. CCA Animals 3 EMC Volume 204-10 Disks- E25.00 CCA Maps
 EMC Volume 206. 6 Disks- 1615.50 - CCA Natural EMC Volume 207-6 Disks. - E16.50-CCA Various

## ECAPSULATED POSTSCRIPT CLIPART

Very high quality clipart, suitable for use with Pagestream,
PPage $4.0+$ and Final Writer
EMC Vol. 12-6 Disks - £16.50 - EPS Clipart Weddings, Houses, Office, Kids. Mil. Planes, Boats, Food EMC Vol. 13-6 Disks - 16.50 - EPS Clipart Buildings, Animals, Sport, Aircratt, Hols, Chets, People EMC Vol. 14 - 6 Disks - 16.50 - EPS Clipart Houses, World, Music, BiPlanes, Males/Females etc.

## Don't bother with the rest

BUY FROM THE BEST!
The Amiga press have given EMC and it's products rave reviews. Now the video press are following suit. EMC's products Camcorder User Gold Award

$$
\text { May } 1994 \text { edtion }
$$

## THE EMC

 INFORMATION PACK
## The HARD COPY EMC information pack includes

 full details of ALL the fonts EMC has on offer, inc. Computer Safani Fonts, along with full font printouts, details of our PNM and scanning services, details of our ECS 16 colour and AGA 256 colour image collections, details of our PCX, GEM, monochrome, EPS, muitiformat and coiour clipart, a font and clipan compatability guide and many example printouts from our huge clipart collections.To get your copy, please send us your name and address, along with.

## £1.00 \& 25p POSTAGE

(Payment can be made with either stamps, postal orders or cheque)
Information packs and updates are included FREE with any order!
"E.M.C. are the FIRST and FOREMOST Font distributors in the UK" they then placed us at...No. 1 in the TOP 10 of the Amiga hardware/software chart! lan Wrigley from Amiga Shopper in issue 16 said.

I must say that I'm quite impressed...
Amiga Format in issue 36 said.
E.M.C. have an enormous amount of expertise in the tricky area of fonts and can provide professional help and advice to customers" Amiga Format Special Edition said.
the best value rescalable fonts available anywhere...there's no cheaper way of getting quality fonts
CUAmiga in the issue of September ' 92 said.
..you couldn't do much better than taking a look through the sets offered by E.M.C."
Amiga Shopper January 1992 gave Safari Fonts and EMC
"The Top Desktop Publishing Typeface Award For 1992"
Pat McDonald from Amiga Format in issue January 1992 said...
"The best person to talk to about fonts, in the UK at any rate is Errol at E.M.C"
Amiga Mart November 1992 said.
"EMC's emergence into the cut-throat retail area has come none too soon, their service and technical backup is second to none." E.M.COMPUTERGRAPHIC - Font, Clipart and Software suppliers to over 7,000 customers!

Our so called competitors claim to offer outstanding technical support and service. If this is true why do the following companies prefer to buy their DTP software from us? MERIDIAN DISTRIBUTION, CENTRAL TELEVISION, MERIDIAN SOFTWARE, FIRST COMPUTERS, BLITTERSOFT, OMEGA PROUECTS, THE INSTITUTE OF MATERIALS, THE UNIVERSITY OF LONDON, THE GUILD OF PROFESSIONAL VIDEOGRAPHERS, THE IMPERIAL WAR MUSEUM AND MAJORVISION INTERNATIONAL.

[^6]
## MICROLAND BULLETIN BOARD SYSTEM

 08919905050483725905 To Download To ViewShareware to download at V32bis, V32, V22bis, V22, V23, \& HST etc. 8 data bits, no parity.

## INTERNET CONNECTED

Microland is now connected to the world's largest network We now provide full gibbal mail, news, software archive, and interactive services. Dont miss out, get connected and explore the world of Internet. Downioad from the biggest archives in the word. Services subject to availability.

Why wait for your software when you can downioad now direct from your computer. Microland offers high speed connections and most files are compressed to minimise the cost. Check it out on 0483725905 at normal call charges. So much shareware you are spoilt for choice.

Calls 100891990505 charged at 39p per minute cheap rate, 49 p per minute all other times Trevan Designs Ltd. PO Box 13, Aldershot. Hants. GU12 6YX

## 50 TOP AMICA GAMES FOR ONLY £9.99 POSTPAID!!

 These games are NOT Public Domain or Shareware! They are ALL 1993 Copyrighted games titles!Adventures, Puzzlers, Platformers, Sports, Shoot-em-ups, Beat-em-ups etc. Some of these games were MEGA-HITS

FUTURE SOFTWARE (AC)
8 Magnolia Park, Dunmurry, Belfast BT17 ODS AII AMIGAS - 1 MEGABYTE MINIMUM!
Fast Despatch on orders. Overseas add £2.00.

## FOR QUICK QUALITY WORK DONE AT COMPETITIVE PRICES

Upgrades + Engineering requirements

- NORMAL SERVICE €24.99 + parts
Free Quote
$\star$ GUARANTEED SAME DAY SERVICE
+£10.00
uters received by
12.00 mid-day
also Monitors repaired
Door to door pick up + delivery anywhere in the U.K

REPAIRS DONE ON THE FULL AMIGA RANGE * including A600+A1200 Low Cost upgrading
1/2 MB A500
1 MB A500 +
Hard Drives.
Internal Drives
.817 .50
.829 .99 . $£ 29.99$ .P.O.A .849.00

144, Tanner St., Tower Bridge, London SE1 2HG TeI. 071-252 3553


dost videographers assume that if an image is to appear on video it has to be animated. In fact, like any other artistic exploit, DTV productions can always benefit from a little light and shade.
If a project is solely comprised of a constant stream of ever-changing animated images, it can become rather monotonous - a brief glance at the average low-budget music video is testament to that.

If you're trying to make a point, during a documentary for example, stills are an excellent way of adding an authoritative news feel. Also, if you're an animator stills can be a very convenient method of stretching the production without forcing your system to expend a huge amount of effort on additional animated sequences.
Another obvious bonus is that stills often provide the only opportunity to display your creations as they really are, rather than being forced into a compromise - as is often the case when imagery is compiled into an anim format.
If you're the lucky owner of one of the many 24 -bit display boards, stills may be the only method youll ever have to show your work at its best.

Obviously some of the modes offered via the AGA come pretty close, but even with the best efforts of Ham8 there's still a noticeable difference between the two.
As I'm sure you're aware there are countless methods of importing images into the Amiga, but basically the process invariably boils down to either scanning or frame grabbing.
In the case of frame grabbing the conversion from live video to a still is relatively painless. As you're already dealing with a video legal image, there's no palette adjustment necessary to avoid the dreaded colour bleeding so often associated with composite video.
This is a regular problem when you're employing scanned images which contain colour saturations that exceed 192 or approximately 12 within the Amiga's colour register.
In simple terms this means you must be careful during selection. If you suspect an element of the image is over saturated check it out in a paint package and make the necessary adjustments before you compile.

Ideally it's always best to run rendered or scanned images through an image processor such as ADPro or ImageFX. Both packages allow you to apply broadcast saturation control operators which will ensure perfect results.
Even though the saturation levels are within the correct levels it's sometimes worth adding a

# light and shade 


keyline - especially to brightly coloured logos and text to ensure they don't bleed in later tape generations.

This can be done very easily via Dpaint's outine function which applies a user-defined outline in the colour of your choice around the selected brush. If you do decide to use this option always opt for a dark - preferably black outtine colour

## BLURRIITG

Even though video grabs are "colour legal" it doesn't mean they're completely free from harm. One of the most frequent grabbing disasters is image blur, a phenomena which is usually accompanied by a horrendous amount of interlace flicker.

This happens all the time when dealing with fast action. Fortunately there is an answer. which although not ideal is a lot better than the migraine-inducing effect of a particularly flickery grab.

All the main image processing programs such as ADPro, Image Master and ImageFX offer a

## Listen to me

Narration is another great reason to employ stills. If you have a mixture of live video, computer graphics and music it's very difficult to add a voice-over without confusing the viewer.

Once again the still can provide a quiet moment where an important voice-over can be introduced and, more importantly, absorbed by the viewer.

Apart from sporting flashbacks, perhaps the best place for such effects is within documentary-style productions. If you're working for a client who wants to establish a corporate ID, nothing impresses more than the occasional still of the boss or a panoramic wide-angle shot of the new offices.

Finally, no matter what the subject or style of your show, a genlock is a near essential for a professional finish. Although direct exposures are useful - echoes being an example - the option to fade stills up or down through live video really adds to the production.
de-interlace option as standard - and it's also fairly likely that the software used to grab the image will offer a similar feature.

Because all video images use two alternating fields to effectively double the resolution of the image, interlace flicker is something you have to come to terms with.

In affect, de-interlacing divides the two signals into their respective fields. As a result the flicker between the two is removed - but alas this inevitably means you lose half the original resolution.

Therefore, always remember to double the height of a de-interlaced image before adding it into a sequence.

If we assume the images are ready for video and in the correct proportions - interlace with maximum overscan - it's time to add them to the production. There are several ways to achieve this, with perhaps the most impressive being Scala - which can introduce stills with a variety of wipes and fades.

If your finances won't stretch to Scala you could employ a PD picture viewer or, even better, load them into View 3.6 - an excellent anim player and picture viewer which is widely available in the PD
With this program it's possible to compile several images into an anim and play them back frame by frame thanks to the program's single frame advance feature.

When a series of stills are combined with a genlock the results can be stunning, especially if the stills are from the actual video on display. Now you can employ the classic TV trick of "echoing". How often do we see a still frame flashback of an athlete frozen for posterity while titles or information pop-up on-screen...
You can do the same, constantly flashing back to the high spots of any event, perhaps with a voice-over adding to the atmosphere.

# AUDITION COMPUTERS LTD. 

Established 1988 Free 50 Disk Labels with every Order

Star LC242000 Printer
A600 Control Centre Cover.94.99

Disks \& Boxes

| 25 Buk DSOD inc Labels. |  |
| :--- | ---: |
| 50 |  |

All disks are guaranted $100 \%$ Emar Free



Citizen Switt 90 Colour 9 Pin Printer._._._ 154.99 Citizen ABC Colour 24 Pin Piniter with ASF..... $£ 16999$ Citizen Swift 200 Colour 24 Pin Printer....... $£ 18999$ Citizen Swilt 240 Colour 24 Pin Printer........ 522999 Paralle Printer Cable $\quad$ E7 99 Citizen Switt9 pin Black Ribbon......e. $\quad$.00
 Citizen Switt Colour Ribbon....................50
All Printers come complefe with driver soffvare

## Control Centise

Menvifactured to the highest standards from Sheet Steel, Epoxy coated to colour match the Aniga. Precision made to ft o ver the back of your Amiga to make a perfect platform for a manitor with a sheif for a disk dive etc. underneath
Amiga A600 Model.
$£ 29.95$

## Edncational

Fun School 2 - ages Over 85 ..... 97.99
Fun School 3 - ages Under 5 s . ..... $£ 11.99$ ..... $£ 11.99$
Fun School 3 - ages 5 to 7 s. ..... $£ 11.99$
Fun School 3 - ages Over 85 ..... $£ 11.99$
Fun School 4 - ages Under $5 s$ ..... $£ 1299$
Fun School 4 - ages 5 to 7 s .. ..... $£ 1299$
Fun School 4 - ages 7 to 11 s. ..... $£ 1299$
ADI Junior Counting ages 45 ..... f9.99
ADI Junior Counting ages 67 ..... 99.99
ADI Junior Reading ages 45 ..... ¢9.99
ADI Junior Reading ages 67. ..... €9.99
ADI English apes $11 / 12$ ..... 99.99
ADO English ages 12/13. ..... 99.99
ADI English ags 14/15 ..... 99.99
ADI French ages $11 / 12$ ..... ¢9.99
ADI French ages $12 / 13$ ..... 99.99
ADI French ages $13 / 14$ ..... c9.99
ADI Maths apes 11/12. ..... E9.99
ADI Maths ages 12/13 ..... 99.99
ADI Maths ages $13 / 14$ .....  9.99
ADI Maths 2ges 14/15. ..... 99.99
Better Maths 1216. ..... £12.99
Primary Maths. ..... $£ 12.99$

## Computer Goods Fast

Micro English (GCSE) ..... $\$ 17.99$

Super Jam
Meoga Maths (A Level) ..... £17.99
Micro German (GCSE) ..... £17.99
Micro Science (GCSE) ..... £17.99
Reading and Wrting- ages 3 to 8. ..... $£ 17.99$
Avin's Puzules - Kids' Academy .....  177.98
Noodys's Big Adventure ..... £18.99
Miders Memory Challenge. ..... f13.99
Mickers ABC ..... $£ 13.99$
Playroom - ages 3 to 8 ..... £14.99
Maths Adventure ..... $£ 11.99$
French Mistress. ..... 99.99
Answer Back Serior Ouiz. ..... c9.99
Fact fie 500 s (for above) BUY 2 GET 1 FREE
Sport. ..... 88.99
Spelling - 61011 ..... 8899
20th Cent History - $12+$ ..... £899
World Geography - $11+$ ..... £899
General Knowisdge Jnr ..... 88.99
General Knowiedge Sinr ..... 88.99
Know Scotland - 12 +, ..... £8.99
Know Engand - $12+$ ..... f8.99
First Aild $-12+$ ..... c8.99
Anithmetic - 6 to 11 ..... 18.99
Assocition footalt - $12+$ ..... E8.99
Natural History - 10 ..... 88.99
Super Sports - $14+$ ..... 899
English Worts - $12+$ ..... ع8.99
General Science: ..... $£ 8.99$Amos - The Creator52999
Amos - Compiler. ..... f17.99
Amos - Protessional ..... £29.99
Pen Pal ..... £27.50
Final Copy ..... £79.99
Final Witter .....  29799
Pagesetter V3 .....  83999
Photon Paint. ..... f999

1999
Quatrertecck. ..... E39.99
Audio Scultor ..... $£ 19.99$
Midi Connector. ..... $c 29.99$
Mepa Mix Masters. ..... £39.95
DSS8 Digita Sound Sampler ..... $£ 34.95$
Digita Final Accounts. ..... £35.99
Video Grabber \& Sound Sampler in one. ..... £39.99
Books
Amiga intern ..... E32.95
Amiga A600 Insider Guide. ..... E12.95
Amiga A1200 Insider Guide ..... $£ 12.95$
Amiga A1200 Beginner's Pack (2 Books \& Video) ..... E39.95
Amiga Next Steps. ..... £14.95
Amiga Dos Ouick Reft ..... 88.95
Amiga Dos inside $\&$ Out rev. ..... 23.95
Amiga Graphics inside \& Out. ..... 29.95
Amiga Dos 2 Companion ..... $E 2299$
Advancea Amiga Basic ..... £14.99
Amiga Made Easy. ..... $£ 12.95$
Amiga Deshtop Video Workbook. ..... $£ 29.99$
Amiga Dos Ref. Guide 3rd Ed. ..... $£ 17.95$
Best of Amiga Trids 8 Tips. ..... £24.95
Computes 2nd Book of the Amiga ..... £16.99
C: A Dabhand Guide ..... £14.95
Deluxe Paint 4-Tutor VIDEO. ..... f14.99
Inside Amiga Graphics ..... $£ 1699$
Kids and the Amiga. ..... $£ 15.95$
Making Music on the Amiga ..... £29.95
More Tricks and Tips. ..... £14.95
Practical Amiga Programmer's Guide. ..... £19.99
Printers Inside and Out. ..... £29.95
Mastering Amiga Dos v3. ..... £20.95
Mastering Amiga Printers. ..... f19.95
Mastering Amiga Dos Vol 2 ..... $£ 21.95$
Using Arexx on the Amiga. ..... $€ 29.95$
Amiga CD32

Many CO32 Tites in stock please call for details Karaoke Mixer with Microphone - Connect to your CO32 and sing along to your favourite music CDs.
We also carry a range of Karaoke CDs with the words. Just like you see in the pubs! Pleasse call for defails.
Directory Opus. .....  82299
Delive Paint 3 ..... 99.99
Media Show ..... c3999
TVText. .....  224.99
Home Accounts 2 ..... £34.99
Money Matters. ..... $£ 49.99$
Gallery Datioase. ..... 99.99
Casshbook Controler. ..... $£ 19.99$
Techno Sound Turto v2

MAIL ORDER DEPARTMENT

## 35 BROAD STREET

## STAMFORD

## LINCS PE9 1PJ

MAIL ORDER HOTLINE 078055888


Pay by Credit Card for Immediate Despatch (subject to security clearance) Minimum order $£ 15.00$ Delivery Charges: Economy $£ 2.00$ Express $£ 7.50$ Post Cheque or Postal Order made out to "Audition Computers Ltd" along with your Name, Address, Telephone Number and Details of your Order, to the address alongside. All Prices include 17.5\% VAT. E\&OE Offers subject to availability tambourines, right through to the more obscure instruments such as the cabasa. Namely everything you 'bash' to play!
One might think that creating a drum accompaniment for a song played on a multitimbral synth would just involve selecting suitable drum sound voices.
In fact it isn't quite that straightforward because, set up in the conventional way, a multitimbral synth would only be able play one voice per channel.
Even if you only wanted a bass drum, a snare drum, open and closed hi-hats, a couple of toms and a cymbal, you'd use seven channels and a large chunk of your multi-timbral capabilities.
The solution involves adopting an arrangement whereby all percussion events are sent on just one channel, with the note value being used to indicate which particular percussion voice should sound.

Some synthesizers and expanders have a special drum channel assigned for this purpose but if you take the hardware that can do this, add some touch-pads which act as drum keys, incorporate memory for storing drum patterns and finally add some software which permits the creation and editing of rhythm patterns, you end up with a unit called a drum machine.
Why mention these? A great many synthesizers, especially those slightly older models, do not have any special drum/percussion facilities. Because of this, you might need a drum machine in order to add drum/percussion sounds to your song arrangements.
As far as the recording and playing back of percussion tracks is concerned, it is much the same as recording or playing back ordinary synthesizer data, although there are a couple of things to bear in mind.

## TRAMSPOSIIL

Firstly, you must not transpose drum channel data because if you change the note values you'll change the actual percussion voice being played.

The effect of inadvertently transposing a drum part will sound disastrous on playback recorded bass drums might turn into cymbals. the snare drum might vanish and so on.

Obviously it is something that is easily fixed by re-transposing the data back into its original key. thereby restoring the original note values. Some sequencers (Dr T's KCS for instance) allow you to "protect" a specified Midi channel from
transposition for this very reason.
The second thing which needs to be pointed

out is that drum machines (or integral synthesizer percussion facilities) vary enormously in the number of different percussion sounds they can provide.

Up until fairly recently, there was little standardisation between different manufacturers as far as which note numbers would represent which drum sounds.

General Midi (GM) has improved matters here because it has defined a set of standardised note-drum-voice correspondences that are always used on Midi channel 10 the GM designated percussion channel).

If you've been involved with Midi for some time and have built up a large library of sequence material, there's a potential problem looming.

In order to make the most of commercially arranged song and sequence library material, you need to have your drum machine set up for the GM drum note correspondences because most of this material is provided in GM compatible Midi file format nowadays.

However, in order to play your existing material, you will still need your percussion unit

## Can you help?

Most Amiga sequencers provide editing facilities that can be used to remap notes on a particular channel, but when youve got possibly hundreds of sequence files this sequencer editing approach to drum part remapping is both time consuming and error prone

Moreover, many people nowadays tend to store their sequences in Midi file form, so what we really need is a "configurable" drum track remapping utlity that can work directly on Midi files using source and destination drum map information supplied by the user
Ive never been able to find a utility like this, so at this point Im asking two favours. Firstly, write and let me know if you ve ever come across such a utility (so that I can tell everyone else about it)

Secondly, write and let me know if you would find such a utility useful - if theres sufficient interest III wite one and put it on the cover disk


Dr T's KCS allows you to 'protect' a specified Midl channel from transportation
set up to provide the drum note correspondences that you originally used.
What can you do? Firstly. you can opt to keep changing the drum note correspondences you use. Secondly, you can remap all the GM sequence material that you obtain so that it corresponds to your original drum note mappings. Or lastly, you can remap all your existing sequence data so that it then conforms, as near as possible, to the GM arrangements.

Obviously the best long-term solution is the last one because this will bring your Midi set-up into line with what has now become a firmly established voicing scheme.
Incidentally, many older drum machines (such as the Yamaha RX21) have fixed note drum-voice correspondences which you cannot alter.

Avoid these like the plague when searching for second-hand bargains and whatever you decide to buy, do make sure that the drum machine's notedrum-voice settings can be reconfigured.

# BRIAN FOWLER 

 $C^{=}$Commodore Computers Lid 11 North Street, EXETER, DEVON, EX 4 3QS
Studio
Printer
Package

For the best possible Amiga printer results
£ 49.95

Lightwave 3D PAL

For a limited introduetory period we will be offering this powerjul software at the astonishingly good

| price of |
| :---: |
| $\mathbf{£ 4 4 9 . 9 5}$ |

Fax Modems
complete with software

Join the Comms revolution!

Fromin $89.0 .0^{0}$

| CD32 Expansio |
| :--- |
| Modules |
| Floppy Port |
| IDE HD Port |
| SIMM Socket |
| Keyboard Port |
| Serial Port |
| Parallel Port |
| Vidoo Port |
| Mpeg Through |
| Audio In |
| Disable Switch |
| Real-Time Clock |

$\$ 199.95$
We're Backing AMIGA!

Call us for all your Amiga requirements!
s ${ }^{5}$ alue

Fed-CASE
Flowcharting Code Generator We are the UK Distributors for this excellent product.
£1
$4.9^{9}$

CD32 Add-On Port. Connect to Amiga or PC

### 829.99

Transfer files, pictures, elip art from CD32 to computer.
MICROVITEC Cub-Scan 1440 supports all AGA modes E429.99
Mierevifed 438
$14^{\prime C}$ Colour Monitor.
All Amiga modes. All Amiga modes.
$£ 299.99$

A1200 CD Rom Drives Double Speed, Multi-Session CD ROM * Photo CD Compatible* Plays CD + C musie and graphies CDs* Mix CD and Amiga Audie Output * Plays (some) CD32 Softeare* PCMCIA Connection
\&199.95
Hard Drives, SCSI 2 Controllers and
Accelerators for the A4000 and A1200

| A 1200 HD | A4000 CD ROM | SCSI II |
| :---: | :---: | :---: |
| Complete 64MB Hard Drive hit. Ine cable, screws, software $\mathbb{Q}$ manual. | With interjace card also available jor 1500, 2000 and $3000(T)$. Available NOW: | FAST: <br> SCSI2 1 Gigabyte <br> Hard Drive |
| 8149.95 | from £199.00 | Only £749.00 |

Can't see what you want? Just ring (0392) 499755 -.. we have lots more than we can show here


By Post
Send your cheque/Postal order to the address above. Clearly state your name, address, telephone number and the product(s) you require. Prices can change so please phone to confirm price and availability. Please allow seven working days for your cheque to clear

By Phone
For an even faster service telephone our sales hot line and quote your credit or debit card number. Friendly and expert buying advice is available at all times.
(0392) 499755

Compare Our Prices! We don't charge extra for Credit Cards or Standard Delivery.


PRICES CORRECT AT TIME OF GOING TO PRESS. E\&OE. PLEASE PHONE TO CONFIRM LATEST PRICES.

[^7]ven the seasoned Internet Navigator gets lost from time to time. At such times you really need something to reach for - a bucket would be nice - especially if you've been on the Usenet alt.tasteless newsgroup for too long.
No, I'm thinking of a reference guide, something which would tell you all the stuff you need to know and fill in the gaps in places where you learned only what you had to know to get the job done.

Okay, so there are some on-line texts, like the Big Dummy's Guide to the Internet from EFF and Brendan Keyhoe's Zen and the Art of the internet, but they are pretty technical, and if you don't know where they reside how can you get them and read them?

Fortunately for you and I there are some books around which give you a comprehensive guide to what's what, and l've been scouting around for some good ones.

Most Internet books, in common with a lot

## Which to buy

If you only buy one of these books then go for the Yellow Pages, but if you want technical info and can find your own resources, then go for TICR. If you're rich and want to have everything that's the best in it's field, then buy both. bearings
of computer books, are American and dry as old toast. They are big thick books with 16 billion pages and full of lists of arcane UNIX commands, most of which you wouldn't ever need, unless of course you intend setting yourself up as an Internet service provider.

## DUPILCRTED

I did happen across two books which were readable, even funny in places, and full of information. Sadly, as they are written by the same guys, a lot of the information is duplicated in each book, so it's an either/or situation. Buy one or the other, not both. The books in question are The Internet Yellow Pages and The Internet Complete Reference, both by Harley Hahn and Rick Stout.

To be sure, The Internet Complete Reference
(TICR) is a forbidding sight, all 818 odd pages of it

## Internet watch

For those of you that don't have, or intend to buy, the Internet Yellow Pages, (poor misguided souls) here is this month's dip into the Internet. I've been spending the last month looking up friends I only ever talk to via email. One such figure is Steve Roberts, tech nomad. You know, the guy who used to ride around America on his recumbent bike loaded down with Sparcstations and Macs?

Well, Steve's next project is the MicroShip, an ocean-going version of his computer bike. To get updates on the MicroShip project, which is drawing to a close, use a World Wide Web server or client program to access:

## $21=$ microship.ucsd.edu

or:
http://aicroship.ucsd.edu

Steve has put some text and pictures of the project for all to see.
Our second service station on the infobahn is outer space. Yes folks, if you need to know how to make your own flying saucer it's all here on the Internet. Simply FTP to:
and go to the directory:
ftp.spies.con
/Library/Fringe/Ufo/build.ufo

There you will find all the info you need to make your own mode of transport that not only gets you from A to B faster than the speed of light, it also makes nifty crop circles as it takes off.

And finally, do you have a question on a range of subjects as diverse as lock picking, comics,
Disney, roller coasters and how to make Vodka? You need a frequently-asked questions listing. All the FAO lists from Usenet can be found either by joining the:

> alt.ansvers
> nisc, ansuers
> nevs, answers
and other similarly named Usenet groups, or download your favourites by FTP from:

## rtfr.ifit.edu

in the directory:

> /pub/usenet/nevs.answers
and then you don't have to wait for each list to be posted to the group!
and about an inch and a half thick. It looks like the sort of book you wouldn't like to enter without stout walking boots and a full pack of sleeping gear and nosh. Surprisingly however, from the first page you are drawn in Harley Hahn's little world within the Internet. The style is warm and friendly, and yet not lacking in technical detail.

This is the technical detail book, and is where you can learn to hot-wire the Internet from scratch using only a simple terminal program.
Obviously things have moved on since then with a lot of graphic user interfaces coming along in the last six months, so a lot of this stuff is academic.

But you know, I like to know this stuff in case I ever find myself without my Amiga and a copy of Amiga Mosaic. You never know. And it is the complete reference after all, so if you ever need to know how to set the maximum number of hits in an Archie search, and don't want to look a dork on the Net by having to ask, you can look it up here. (Chapter 17 p337, if you must know.)

As for The Internet Yellow Pages, now this is where it gets interesting. The second half of TICR is a catalogue of resources on the internet, and some bright spark thought it would be swell to peel that off the book and sell it as a new book suitably rewritten and augmented of course.

This, like most bright spark ideas, was a flipping blinder, as this is one of the best books about the Internet you can buy. It's funny, interesting. occasionally mind blowing, but always readable and useful.
It's solved a few of my immediate problems already, like how to find an e-mail address when you can remember it (p159), where is the locksmithing newsgroup on Usenet (alt.locksmithing), and where can you get a high grade source of dirty limericks
(quartz.rutgers.edu).
It's a great book and one which is never far away from my hand. It's that rare thing, a reference book you also read for fun.

## Contacts

See your local bookseller for both these items:
The Internet Yellow Pages
(Osbourne/McGraw Hill 1994)
By Harley Hahn and Rick Stout ISBN 0-07-882023-5

The Internet Complete Reference
(Osbourne/McGraw Hill 1994)
By Harley Hahn and Rick Stout ISBN 0-07-881980-6

## Phill South

looks at two

## INTERNATIONAL SOFTWARE DISTRIBUTOR SPECIALISING IN MULTIMEDIA PRODUCTS (DISK OR CD-FORMAT) FOR AMIGA, AMIGA CD-ROM \& AMIGA CD 32

## SEEKS

EXCITING NEW PRODUCTS FOR DISTRIBUTION THROUGHOUT GERMANY, SWITZERLAND \& AUSTRIA

GTI CURRENTLY DISTRIBUTES TOP AMIGA PRODUCTS FROM: ALMATHERA, EUROPRESS, FRED FISH, HI-SOFT, MMM, OASE, OPTONICA, OSSOWSKI, PSYGNOSIS, WALNUT CREEK, XETEC \& MANY OTHER WELL KNOWN COMPANIES.


GTI • Grenville Trading International GmbH Zimmersmühlenweg 73
D-61440 Oberursel
Germany
Tel.: +(49) 617185937
Fax: + (49) 61718302

## ADDITIONAL DEALER OUTLETS IN ALL COUNTRIES




# AMIGA REPARS FIXED CHARGE ONLI 842,99 incl. 

FIXED CHARGE INCLUDES PARTS, LABOUR, DELIVERY, VAT 90 DAY WARRANTY ON ALL REPAIRS 24 HOUR TURN-AROUND ON $95 \%$ OF REPAIRS<br>12 Years

ALL UPGRADES PURCHASED FROM US FITTED FREE WITH REPAIR INCLUDES REPAIRS TO DRIVE \& KEYBOARDS, ADD $£ 10.00$ IF NEED REPLACING, FULL DIAGNOSTIC TEST AND SERVICE

A500 INT. 3.5" DRIVE $\quad \mathbf{3 8 . 9 9}$ Simple to fit, fully documented
A600/1200 INT. 3.5"DRIVE \&41.90 Simple to fir, filly documented KICKSTART $\mathbf{1 . 3}$ ROM $£ 25.00$ For software compatibility
KICKSTART 2.05 ROM $\quad £ 29.90$ Upgrade to A500+ Rom SUPER DENISE Excellent value 68000 CPU 828.70 £15.00

A500 MODULATOR Exchange repair
A500 KEYBOARDS Factory new, genuine part FATTER AGNUS 8372A 1 Meg chipram compatible CIA IC 487

Printer, serial, drive ports GARY IC 811.50 819.95
$\triangle$ ATTENTION ALL DEALERS $\triangle \Delta$ Our company now offer the most competitive dealer repair service. Full credit facilities available. Send for our Free information pack today...

We reserve the right to refuse repair for whatever reasons.
Prices only valid with this coupon
Service HOTLINE (0533) 470059
DART Computer Services
105 London Road
LEICESTER LE2 0PF


Computer Services

IIIaking Amos programs that really sing off the screen at you has always been problem numero uno. Regular correspondent and Amos hacker Malcolm Lavery has come up with this neat idea which deserves a look, and it's all about the making and using of 3D buttons. Let's go through his listing with a fine toothed comb.
Firstly we round up the usual suspects, setting up the screen and palette nonsense:

```
Screen Open 0,640,256,16,Hires
palette
50,5FF5,,,56CC,SEEE,5999,$333,588F,$100,5800,$40
,580,50,58
Curs Off : CIs 0: Flash Off
Linit Mouse 0,0 To 640,500
```

The limit mouse thing is to stop the mouse co-ords screwing up, and if you intend doing any mouse co-ords stuff I recommend you reset them first before use. Next we need to reserve some zones:

## Reserve Zone 10

Obviously there is one zone for each button you wish to create. Then we call the 3D Button procedure to create our buttons:

30_OISPLLY[0, $0,640,10,0,8]$
30 OISPLAY $0,11,640,250,0,6]$
Tnk 0,8

_30_日UTTON[1,20,20,200, 10,0, "PRESS",6,01 _30_BUT-
Ton $2,20,40,200,10,0$, "And press here! $\cdot, 6,0]^{-}$

- 30 _qutton $[3,20,60,600,20,0$, "hny size buttons can
be drann",9,1] 30_вutton[4,20,90,470,150,0,"B16
Button",11,01
_30_ButTon $\left[10,520,225,100,20,0,{ }^{\text {'QuIt }}!^{*}, 6,0\right]$
How this works is detailed later on. Then of course we set up a control loop, testing for mouse clicks and routing the info to the buttons:


## Do

TEST=Kouse Zone
TESTTVO =House Key
If TESTTVO $=1$ and TEST=1 _3D_BUT-
TON[1,20,20,200, 10, 1, "PaESS",6,0]
Bell
Yait 10
_30_Buttonet $1,20,20,200,10,0$,"PaESS",6,0]
End It

## If TESTTVO=1 and TEST=2 _30_BUT-

TOML2,20,40,200, 10, 1,"*AGIC", 6,0$]$
Bell
Wait 10
30_Button[2,20,40,200,10,0,"And press here!",6,0] End If

If TESTTVO $=1$ and TEST=3
_30_bution $[3,20,60,600,20,1$, "Big and fat is this
button!", 10,5]
Bell
-30_8uttont $3,20,60,600,20,0$, "Any size buttens can
be dravn ${ }^{2}, 9,12$
End If
If TESTTVO $=1$ and TEST $=4 \quad 30$ BUT-
TONC4,20,90,470, 150, 1, "onl! ${ }^{-12,12,01 ~ B e l l ~}$
Wait 20 _ 30 _Buttont $4,20,90,470,150,0$, , OFF! !", 11,0] End If
$21=\mid$ If TESTTW $O=1$ and TEST $=10$
_3D_BUTTON $\mid 10,520,225,100,20,1$, BYE
BYET, 8,0] Bell
Yait 100
Fade 5
Hatt 100
Edit
End If
Loop

## Buttons

 galareThe tests check each button and if the test is true then the text on the button will change. Usually a bell will sound to indicate that your button has been pressed.

Finally we have the procedures which create and use the buttons. _3DBUTTON gives you a zone number, $x$ y co-ords for the top left corner, height and width from that corner, IN_OUT which is a flag to see if the button is in or out, the text to be inserted on the button, and the background and ink colours. It's a comprehensive little proc. and very well done to Malcolm for figuring it out.

$$
\begin{aligned}
& \text { Procedure }
\end{aligned}
$$

$$
\begin{aligned}
& \text { TEKs,_FILL,_INK] }
\end{aligned}
$$

First we test the length of the text:

> LE=TExt Length(TEXS)
> XTEXT=I+VIDTH/2
> Y-TEXT=Y+HETGHT/2+3

This next bit is the flag for the in or outness of the button in question:
If IN_OUT=0
RILIGHT=5
SHADOV=7
End If
i
If IK_OUT $=1$
HILIGHT=7
SHADOV $=5$
End If

Then we draw the shadows and highlights:

## Ink HILIGHT

Draw $x, Y$ To $X$ wwidTh, $Y$
Draw $x, y$ To $x, y+$ HEI6HT
Ink SHADOV
Draw $X+V I D T H, Y$ To $X+V D_{D T H}$, $Y+$ HEIGHT
Draw $x+v I D T H, Y+$ +הEIGHT To $x, y+H E 1 G H T$
And fill the button:
Ink_FILL
Bar $\bar{x}+1, y+1$ To $x+$ +V1DTH-1, $y+$ HE16HT-1
Then we insert the text as graphic text:

$$
\begin{aligned}
& \text { Gr Vriting } 0 \\
& \text { Ink_INX } \\
& \text { Text X_TEXT-LE/2,Y_TEXT,TEXS } \\
& \text { 6r Vriting 1 }
\end{aligned}
$$

and finally set up the zone:

$$
\begin{aligned}
& \text { Set looe _2ONEKUHBER, i, Y To X+WIDTH, Y+HEIGNT } \\
& \text { End Proc }
\end{aligned}
$$



System legal file requesters for Amos are no longer a dream

Next we have the _3D_DISPLAY proc, which provides 3D backgrounds for your 3D buttons. No need for zones here, as these are simply static boxes.


And there it is. A simple program, illustrating a few cardinal rules of Amos. Make a small program which automates a task and work outwards from it. Although I'm still not sure about Procs from the standpoint of larger programs, in small programs they are no slower than taking the sub-routine route, so it's good either way.
Once again a neat proggy from Malcolm, and thanks for that.

Any more brillo Amos code heads out there want to blind us with their genius? Hmm , I thought so.

## Write stuff

If you have an Amos question, or a routine you'd like to share with the world, then please write to Phil South, AMOS Column, Amiga Computing, Europa House, Adlington Park, Macclesfield, SK10 4NP.

Amiga $C^{1}$

## Express Pd

Quality PD \& Shareware
Magazine Business Centre, 11 Newarke Street, Leicester LE1 5SS
Tel: 0533559711 Fax: 0533470118
Monday-Friday 9am-6pm, Saturday till 2pm



NORTHERN AMIGA USERS GROUP
Dept AC3, P.O. Box 151, Darlington, County Durham, DL3 8 YT England Tel. (0325) 352260

E-Mail: bux8@unn.ac.uk

| - PD Software 99p per Disk - Postage 50p per Order - |  |
| :---: | :---: |
| Latest Utilities <br> U076 WB3 Hard DVNe Mratalation Dak (WB3) U108 PC <br> $\mathrm{U} 108 \mathrm{PC} \propto$ Amiga $\sqrt{23}$ U137 N-Come V30 whe. <br> U130 Canon Portar atudo V1.2 UTO4 A 00 HD inatal Dik <br> Uaco Sproctrum Emulator V1,7 <br> U205 Teat Engine V4.1 (W82+1 U219 SKick Pro V3.21 [WB2+) <br> U227 Magnum vt. 9 <br>  <br>  <br>  <br> U302 Vientaik v201 (WB2+) U305 Adrose Print v4.0 (WB2+1 <br> U300 HD Games instalor U310 Veks CUI Usis w4 <br> U316 DMS PAO v2 O2 [WB2+] <br> U317 Action Reptisy Pro [AAA) U319 SID Pro V2.01A NE2 <br>  <br>  <br> U338 Epoch Master V [WB2+] V340 Vibeo Tracker AGA v1 34 <br>  <br> U352 Mapio We v1 2P WB2 + ] U353 X.Password WB2 <br> US5 Slereoscoge V 2.4 A (ROS Generaton) [WBè+] <br> Us56 Magic User intarface v2 WE3] U357 CDSe CD Aom Oames <br> U359 Toletext v1, 20 (ine Diagrams) [WB2 +1 U351 Kids DTP 2.6 <br> Use2 Kods DTP रeras <br> U363 XPK Compression Package v2.5 [WB2e)] <br>  <br> U375 Magke Menu vi. 9 WB2t U376 Powercache v 37.115 F We2 <br>  <br> U378 HD Cick 2.60 [WB2+] U379 Deskbo Magic 22. <br>  <br>  <br>  | Latest Demos <br> D055 Spacoballs "State of the Art" AGA D067 A1200 "Point of Salo" Demo AGA <br> D0e2 Last Stand on Hoth Animation (4D) <br>  <br> D093 Smells like Channel No. 5 ACA <br> D095 spacobals "9 Fingers" 2 disks $)$ D099 Complex "Origin'AGA 2 dsks $)$ Di00 <br> Di00 Wrtat Dreams Ful Moon' AGA D101 Noxous 'Blyond Bolior AGA <br> D102 Xansdy 'Explien 2" AGA D103 Team Hoi 'AGA III' $[$ AGA 3 3D] <br> D104 Redrex "Emply Head AGA <br> D105 Sients "Snozzed Sommerseulf D106 Vivid "Ahstract Pig' AGA <br> D1ce Sosptic "Agatha' AGA D109 imvestation -Ray <br> 0112 Axis "Big Time - AGA AGA [3O] <br> D113 Kefrens "Inserchangs" ACA <br> D114 Lymbx Wha it UP" D115 Nystio "Visa $A G A$ <br>  <br> D118 Nova "Sory -AcA D119 Andromeda -Mirer [2 Disks] D120 <br> D120 Smal is Besuititi Demo Comp. 12 Disks] D121 Cnpoboumers Cranh Tesf <br> D121 Cryptobumers "Crahh Test D122 Complex. Rear AOA - BrIar <br> D125 Ram Jam "Taste the. AGA [2O] <br> 0127 Oxygene "Cuzoc" - Exoollont <br> D126 Mra Omistran AGA . Get $\begin{aligned} & \text { E } \\ & \text { D129 Talert } \\ & \text { OED } 2\end{aligned}$ AGA [2D] <br> Other Bits <br> A055 Bodyshop V AGA \|2D| ADOS Bocyshop GA AGA |2D] <br> A067 Booyshop 7 AGA [2D] <br> Graperine 19 1901 <br> Channel $Z \geqslant 5+2 \mathrm{D}$ ) <br> Upatroam Disk Mag * <br> N.A.U.G. PD Disk Magazine Example Assassins Game 1-185 <br> Assassins Game 1. 166 26 Disks of CGFonts <br> so Disks of Prolessional Sound Samples <br> Send an S.AE for our user group infompitan t ar Sisk pack comnatation info shenet. |
|  | How to Order: Croose the disks you would like, maving sure they are compatible with your machine, and send the list with the relevart amourt to the address at the top of the page Make all Cheques or Postal Orders payable to: <br> EEC Orders add $10 \%$ to Tolal Order <br> Rest of the Worid add $20 \%$ to tatal order |


|  | VERTISERS' INDEX |
| :---: | :---: |
| 1st Computer Centre ..........64, 65, 85 | Hobbyte............................... 30,31 |
| A. Plaskett............................. 128 | Hornesoft Pd........................... 128 |
| Alternative Image ....................... 126 | ICPUG .................................. 128 |
| Amivision ............................... 118 | Indi Direct Mail.................IFC - 3 -13 |
| Analogic .................................. 80 |  |
| Audition................................ 144 | Kyte Products........................ 150 |
| Black Cat Computer.................... 125 | Ladbroke .................................. 20 |
| Black Legend............................ 118 | LCL...................................... 85 |
| Blittersoft ................................ 90 | Micro Mania .............................. 52 |
| Brian Fowler Computers.............. 146 | Millenium Interactive................. 101 |
| Bus Stop PD............................. 128 | Moore Healy Mkting.................. 128 |
| Capri CD Distribution ................ 128 | N.A.U.G.............................. 150 |
| Compudial Multimedia Sys.......... 127 | New Dimensions ...................... 148 |
| Dart Computer Services ............. 148 | OnLine Pd ............................. 128 |
| Deal Direct................................ 36 | Owl Associates......................... 85 |
| Delta Pi Software........................ 63 | PD Drome ............................... 54 |
| Deltrax PD.........................132, 133 | PD Soft.................................. 138 |
| Direct Computer Supplies ............. 72 | Power Computing............11, 155, IBC |
| Easy PD................................ 125 | Premier Mail Order..................... 142 |
| EM Computergraphics..........140, 141 | Priory Software ........................ 128 |
| Epic Marketing ....................108, 109 | Rombo Ltd .....................-...OBC |
| Europress Direct .................152, 153 | Selectafont Company .............. 80 |
| Europress Software.................89, 95 | Sillica Systems..............15, 53, 57, 75 |
| Express PD............................. 150 | Siren Software........................ 39 |
| Fantasia PD ............................. 128 | SoftWood Products.................26, 27 |
| Fast Computer Services .............. 142 | Special Reserve......................4,5 |
| Featherstones .......................... 128 | The Logic Shop ...................... 148 |
| Five Star PD ............................. 48 | Toxic Software ........................ 128 |
| Future Software........................ 142 | Trevan Design Ltd ..................... 142 |
| GTI................................... 148 | Trilogic.................................. 28 |
| Gasteiner............................43-45 | Underground PD ..................... 118 |
| Gordon Harwoods ..................18, 19 | Whiteknight Technology.........78,79 |
| Grey Tronics ............................. 16 | WTS Electronics ...........63, 136, 137 |
| Hi Soft | York Electronic Res ................... 128 |

1ast month we set up everything to do with paragraphs for an entry in our Final Writer style sheet. Now weill complete the style by adding tab settings and the type details.
Load the document we saved at the end of last month's article and get the Main Styles requester on to the screen by selecting Layout/Define Style/Main.

In the Style Names list, click the Body style we created previously and then the Define gadget under the Tab Settings heading over on the right.

At the moment there are no tab settings. If you don't need tab settings for this style, then you don't have to worry about this requester; Final Writer has a default tab distance of half an inch, and you can alter this in the Project/Preferences/Document Items requester.
The important fact to remember about tab settings is that the position is measured as a distance from the left-hand margin setting, not from the exact left of the page.

To set up a tab position, first hit the New gadget, decide what type of tab it is, then enter the position. You can have as many of each type of tab as you like, but be careful not to specify the same position for two types - for example, if you have a left tab set at 2.0 and a centre tab set at 2.0 , then the second one in the list will never be used.

Notice that as you enter position figures, the list automatically sorts itself into left-to-right order of distance across the page.

Select OK to accept your tab settings, then select define under the type settings heading. This requester is where you get to choose a typeface and type style.

Hit the select gadget under the typeface name heading. Final Writer will put up its font requester which defaults to its own FWFOnts/SWOLFonts drawer. You may alter this in the Final Writer icon's Tooltypes.) Select a font and click OK.

Beneath the typeface name gadget is the colour list. You'll probably want the main body to be black but for other styles you may want to select a colour. If you don't own a colour printer you will need to experiment with these colours to see how they print

## The stule council

in mono. Despite what they say, size is important. Body copy is normally anything between eight point and 11 points. Magazines, for example, are generally set in 9 or 10 point, books are usually 11 point, or perhaps 12 point if the typeface is a 'small' one.

For good readability leading should be about $120 \%$ of the point size - so 10 point text is good with 12 point leading (written down as $10 / 12 \mathrm{pt}$ ). Note that the leading size includes the size of the typeface, so 10 point text with 12 point leading means there is two points of space between the lines.

## ПEU SLFITS

The Width gadget enables you to condense or expand a typeface. For body copy it is better to buy a typeface which has been specifically designed as condensed or expanded, but for quick special effects - in headings for example - make good use of the Width gadget.

Likewise the Oblique gadget. You shouldn't really use this as a replacement for a proper italicised typeface, but it is very useful for adding a new slant to your document.

Over on the right of the type specs requester you can select superscript or subscript from the position drop-down menu, and beneath that you may select All Caps or Small Caps.

Small capitals are upper case letters whose height matches the height of the lower case letters in that point size (the 'x-height'). If a word has an initial capital, then that is left at its full height and only the subsequent letters are put into small caps.

Finally we come to Style, which is

A good 'default' for
leading is about $120 \%$ of the type size


Be careful not to position different tab styles at the same position
a rather confusing name for what is merely a drop down menu that enables you to select some underline options. Underlines make a document look amateurish; use them sparingly.

Everything selected, hit the OK gadget in the type specs requester, then the OK gadget on the main styles requester. Our style is now set up.

If you select Paragraph/Font/Style Strip from the View menu, the body style should appear in the gadget at the top left of the screen. Select View/Show Style palette to get the body style gadget into a floating window if you prefer. Remember, to save the style you must save the document.

To the casual user this must all seem like a hell of a lot of work just to get some text on the screen in a particular typeface and size. Indeed it is. And you don't have to do it this way.
However, the advantage is that you only have to set up your styles once, after which any style is literally one mouse click away. Without styles you would have to manually set all the parameters every time you wanted to change style.

Once you get used to the idea, I'm sure you'll find it a much more productive way to create documents, particularly if you want your documents to have a consistent look to them.
 window


TURBO TOUCH JOYPAD
This is a rodical new style of hand held controller. Just pass your finger over the sensor - No more finger fatigue or blisters. And thanks to better diagonal and circular $\left(360^{\circ}\right)$ control, the newest and most challenging games are easier to control and more fun to play. The Turbo Touch 360 brings a new dimension of control and comfort to video game play.


## RE-INK SPRAY

Save money and the environment with Re-Ink Spray and bring bock life to your exhausted printer ribbon. Simple and cost effective, it can save you up to $90 \%$ on ribbon costs and gives cleaner, blacker print with no blotches and it works for all fabric ribbons. Just open the ribbon case, spray Re-Ink onto the ribbon and hey presto!

10 OUT OF 10 MATHS (NUMBER)
For children 6 to 16 years. This is a first rate set of games suitable for a wide range of ages and abilities. They are educationally worthwhile and exciting to play - a rare combination. They are highly recommended for both home and school use.


## 10 OUT OF 10 ENGLISH

For children 6 to 16 years. With its elaborate system of colour coded levels of ochievement and multiple levels of difficulty. This is a useful compilation of programs based on the current National Curriculum for English.
Guaranteed to sustain the attention of even the most reluctant of learners.


## PRO-PUNTER 2 PLUS

DO YOU WANT TO INCREASE YOUR CHANCES OF WINNING ON THE HORSES? THEN LOOK NO FURTHER

## Independent comporative reviews confirm thal Pro-Puater is

 still the parformaxe benchmark by which all others are ipdged.The best rocing sotware... ovailable, The Rocing Post.
Officiolly proven to the racing press and ofther magarines by sendieg time and date fronked letters by Post Office mol, Pro-Punter hos shown that it con predid winners
with remakable octuracy. Pro-Punter is olso cur-
 I will odrise you not to bet.
The NEW second generation Pro-Punter is witten to professiond standards and is attrodive and easy to use. It teotures full edifing and review of roce dato entered and dso su urique low-minintenance datobsse that does not need constrant updating.
In oddidion to UK feectures, Pro-Punter 2 contcins unique course/gsing/doss efitors ond will configure to metric weights/distonces, thus alowing configurafion for rocing warldwide.


$-1.0 .00$


## DISC DIARY

Disc Diary - the smartest way to carry up to six $3.5^{\circ}$ floppy discs at a pocket money price.
Each case is made from tough semi-rigid polypropylene specially designed to protect against accidental damage whilst retaining the smart appearance of a wallet or pocket diary. A perfect practical giff not yet available in retail outlets. Available in black or grey.



If you've missed any of these issues, now's your chance to put things right, by either buying an individual issue or a full six months' worth. But hurry - stocks are limited!


Amiga CD32 taken apart. Survival guide to modems. Hard drive round-up. Reviews of DSS8+, Technosound Turbo 2. Brilliance, AMOS Pro Compiler and Quarterback Tools Deluxe. ON 2 DISKS:Caligari, 10 out of 10 Maths demo and F117A Stealth Fighter full mission demo VALUED AT E5O


Money saving guide for new Amiga users, Word Processor roundup, RAM expansion round-up. Survival guide to floppies. ON 2 DISKS: Take Two animation editor VALUED at E80, Fusion Paint VALUED at $£ 30$.


A look behind Babylon 5, PC and Mac emulation and a survival guide to monitors. Reviews of Vidi Amiga 24 RT, Humanoids, BJ600 and A2A.
ON DISK: JCGraph


The information highway and where the Amiga fits in. Is the superhighway just a lot of hype? Plus: reviews of Final Writer 2, Distant OW2 SUns 5 . Studio 16 latest sampling software OW 2 DISKS: K-Spread 2 ful commercial spreassheet program plus Virus Checker 6.34 and Sysinto.


Modelling Madness, the ultimate guide to all things three dimensional. Sequencer round-up. Survival guide to scanners. E-mail for the masses. FREE 16 page CD32 supplement OW 2 DISKS: AMOS 3D, Batdog. Stickit, ARoach, Virus Checker and Akeko-AGA


Virtual reality - the new frontiers, Samplers survival guide, Floppy round-up, AC awards, Montage 24, Show report. Database round-up, Paint package round-up. FREE 64 PAGE BOOK: All about the A1200. ON 2 DISKS: Design Works VALUED at E50, Vidi Amiga (12) RT Software.

## 

The future of computer games explored. What will they look like in ten years? Also, reviews of Helm, AMax Mac emulator, A1230+ accelerator, Tocatta 16 -bit sound card, and A4091 SCSI-II card. OW 2 DISKS. KindWords 3, a complete wysiwyg word processor with dictionary and thesaurus.


How to survive and master the Internet. Plus: reviews of A1230 Turbo, ClariSSA the animator package, the Tabby graphics tablet and Liana.
ON 2 DISKS: Devpac v2 plus demo of 10 out of 10 's French Tutor.


DTP round-up of the best DTP packages available. Survival guide to SIMMs, ZIPs and DRAMs. Reviews of Essence 2, Picasso 2, Hama 292 and MiniGen Pro. FREE Sottware encyclopaedia paperback book ON 2 DISKS: Quarterback Tools, Harmoni Midi Sequencer VALUED at £70


Amigas in the movies. Round-up of sound samplers and flight simulators. Reviews of Wavetools, 1-Card, Protext v6.0, Star S.144, TrapFax. Syndesis and Spectrum 28 ON 2 DISKS: The Publisher and MRBackup Protessional VALUED at \&40.


Can Commodore survine and take the Amiga forward. We look at the Amiga market as a whole. Plus: reviews of TBC Plus, Wordworth 3.0, Muitiframe, Videostape Pro, and the ACE marketing intlathe.
OW 2 oisrs: Personal Fonts Maker for creating your own custom fonts, Legacy of Sorasil complete plagable level and Epoch Master, a superb personal organiser.

| October $1993+2 \times 3.5^{\circ}$ disk | Price £3. 25 | Order No. $9766$ |
| :---: | :---: | :---: |
| November $1993+2 \times 3.5^{*}$ disk | £3.25 | 9767 |
| December $1993+2 \times 3.5{ }^{\text {" disk }}$ | £3.25 | 9768 |
| Xmas Issue $1993+2 \times 3.5^{\text {" }}$ disk | £3.25 | 9769 |
| January $1994+2 \times 3.5^{\prime}$ disk | £3.25 | 9770 |
| February $1994+2 \times 3.5{ }^{\text {c }}$ disk | £3.25 | 9771 |
| March $1994+3.5{ }^{\text {d }}$ disk | £3.25 | 9772 |
| April $1994+2 \times 3.5^{\text { }}$ disk | £3.25 | 9773 |
| May $1994+2 \times 3.5^{\circ}$ disk | £3.25 | 9774 |
| June $1994+2 \times 3.5^{\circ}$ disk | £3.25 | 9775 |
| August $1994+3.5^{\prime}$ disk | £3.25 | 9777 |
| Any 6 issues above | £18.00 |  |
| Amiga Computing Binder | £5.95 | 9509 |
| All prices include VAT. |  |  |
| TEL: 051 | 71 |  |




## ACEEX FAX MODEM

- External Fax \& Data modem
- Receive \& send faxes in the backgrpound
- Full Haynes AT command set supported
- Supports class 1, 2 and 3 fax commands
- Fax send \& receive
- Auto dial \& Auto answer
- Supports error correction + detection
- Leased line support
- All cables \& manuals supplied

Aceex Modem v. 32 bis $\qquad$ $£ 169$ Aceex Modem v. 32 bis inc. TrapFax $£ 199$

## WARP ENGINE

High Speed 040 Acceleration, up to 128 MB of Memory. Fast SCSI-II Controller, all of this expansion is on a single board that installs into the CPU slot NOT a Zorro III Slot!

- Very High Speed Local 040 Memory Bus with full 040 burst access
- NCR $53 \mathrm{C} 710 \quad 40 \mathrm{MHz}$ SCSI-2 Fast Controller connected directly to the 040
- 32Bit SCSI host bus DMA interface supporting burst to and from the RAM
* Supports $10 \mathrm{MB} / \mathrm{s}$ SCSi Transfers.
- Full DMA allows the CPU to still have $90 \%$ Processing Power while doing Transfers
- No Zorro III DMA Problems
- Fully Autoconfiguarable with optional Autoboot capability for SCSI
- 32Bit RAM Expansion Up to 128 MB
- Uses Standard 72Pin SIMM Modules
- Allows Mixing of RAM Module Sizes
- Supports 4,8,16,32MB SIMM Modules
* Uses the Memory that is installed on the Amiga 4000 MotherBoard
- Supports DMA access from ZorroIII Devices to onboard Memory
* A3000 Version supports up to 64 MB of 32Bit Memory
- A3000 Engine will clock 16 MHz MotherBoards at 25 MHz

Warp Engine 28 MHz _.................. $\mathbf{£ 7 9 9}$
Warp Engine 40 MHz ........... 1199

## Amiga 4000 only


FARGO PRIMERA
Primera printer ..... $£ 649$
Photo realistic upgrade kit . . . . . . 199Photo realistic refill kit (100 prints) .£250Photo realistic refill kit ( 25 prints) $\mathbf{£ 7 9 . 9 5}$4 colour ribbon ( 80 prints) . . . £38.953 colour ribbon (115 prints) . . £38.95
£38.95
Monochrome ribbon ( 400 prints) $£$ ..... 231.95
Primera paper (A4 200 sheets) . ..... £18
T-Shirt transfer paper (A4 10 sheets) .£17.95Primera \& Studio DS software . . . . . $\mathbf{8 9 9}$(Suxdio soffware is a true 24 bit printer driver)
SCSI/TDE DRIVES
We can supply SCSI or IDE $3.5^{7} / 2.5^{\circ}$ harddrives in many different sizes. Including cables andinstallation software.
80MB IDE $2.5^{\prime \prime}$ Internal. ..... £160
130MB IDE $2.5^{n}$ Internal. ..... $\mathbf{£ 2 2 9}$
180MB IDE $2.5^{n \prime}$ Internal ..... £270
260MB IDE $2.5^{\prime \prime}$ Internal ..... £359
52QMB SCSI ..... £129
200 MB SCSI ..... £349
500 MB SCSI ..... $£ 499$
IGB SCSI ..... $£ 699$
SYQUEST DRIVES
$3.5^{\prime \prime}$ IDE Internal ..... $£ 499$
3.5" IDE External ..... £579
3.5" 105 MB Cartridge ..... $£ 79$
$3.5^{\circ}$ SCSI version available $£$ POA
POWER OPTICALOin
128MB Optical Internal ..... £699
128MB Optical External ..... £779
128MB Optical Disk .....  $\mathbf{8 5}$
SCSI Controller A2000 ..... £129
X-BACKUP PROX-Backup Pro (Hindwaze doiped by us) $\mathbf{£ 2 9 . 9 5}$

NEW MIDI INTERFACE


Order Form



Special Summer Offer
Fed up with computer games?
GRAB some World Cup 94 live action! Enter the world of computer graphics, with this special ROMBO offer and save. $£ \mathbf{3 0 . 0 0}$

The world beating
Vidi-Amiga 12 now * available at only $£ 69.95$ From all usual ROMBO stockists

## What the press said...

Alon Puzey AMIGA USER III..."What con I soy ? Between $£ 200$ ond $£ 300$ for on excellent 24 bit reol fime frome grabber thot you con sipip in you pocket and toke anywhere: it's guranteed to breek the ice at porties when you slip it out ond extol its virtues."
Mat Broofield CU... Value for Money, "no other digitiser comes close."
"At $£ 199$ I think that Vidi 12 RT is the cheapest real-time 24-bit digitiser in the world, it's the only one for Amiga that doesn't need a big box machine such as the A1500
or 3000 ."

Aul... Soryy Rombo, but '/'m not going to gove it more than the 98\% I gove the Viotramigo modine go then?
produce vet o betterer mocin the grectest grophics products to appear The Vidid-Amigo is one of the greedest grophics ping to be one of the on you fovouite computer... its 1994 ."


# The Vidi Range 

Special Summer Offer


Vidi Amiga 12 is our entry level digitiser. Perfect for someone who's getting involved in video copture for the first time. This model captures mono pictures in real-time, colour in less than a second.
Software includes an Animation Workstation and powerful Image Processing grobs pictures in 4096 colours and 16 greyscales. Comprehensive file support indudes BMP, Tiff, IFF, ANIM etc. Fully compatible with all Amiga's.


Vidi Amiga 12RT, is the perfect Multimedia video tool for A1200 users. Offering real-time colour image capture in all Amigo modes including $24-$ bit.

Fully compatible with all Amigo's, 2 meg or above. Imoges can be grabbed in 16.7 million colours or 256 greyscales from any video source (TV, Video, Satellite etc.) Connect Vidi to your camcorder and you have one of the most powerful sconning devices available.

£199

AMIGA
SHOPPER
SHOPPER

$\underset{\substack{\text { ¹88 } \\ 1993}}{ }$

Vidi Amiga 24RT is our most powerful real-time digitiser. Producing SHR (Super High Resolution) true colour 24 -biti images at beyond broadcast quality. Designed for the normal user, but offering truly professional results. For the person who wishes to push his Amiga to it's MAX ! Supporting all file formats inc. BMP, TIFF, IFF, ANIM, \& JPEG.

It will capture your imagination, bringing photorealistic images to your screen. Suitable for any imoge related multimedia, picture scanning application. Fully

£299 Amiga's fitted vith a true colour display card. Most of this advert has been produced

Rombo, winners
of the coveted
SMART Awards 1 \& 2
for innovation
Further information and details on how to order Call: 0506414631


[^0]:    Compuservet Widening its horizons

[^1]:    COMPUGRAPHIC FONTS a milable pack 1,2 or 3 pack
    ADOBE TYPE 1 FONTS availate pack 1,2 or 3 pack All pads above aze suithble for Propuge. Papotream, final cepy at
     ITT MAP CIPARTS padk aneilable. Very high quality dipert for virtaily al DIP \& Paini programs

    All pacts above came wn 5 dide exch andarr parasteni. No fontser inpert impgo are reppoted

[^2]:    All offers subject to availability. All prices subject to change without notice. E.\& O.E.

[^3]:    John Veldthuis' Virus Checker is the Amiga's premiere virus killer. It comes with an extensive virus database

[^4]:    AUDIO PRODUCTS SUNRIZE AD516/STUDIO 16 8 Track Stereo, 16 -Bit, Better than CD Quality - Direct to Disk Recording, Editing \& Playback. Can be used in conjunction with Bars \& Pipes Protessional, the DPS Personal Animation Recorder (PAR) and also the new Digital Broadcaster 32 from Digital Micronics.

    Now \& 1175 Inc. VAT
    Please Call For A Full Brochure

[^5]:    Heimdall 2: Judgement day

[^6]:    Cheques are subject to 5 working day clearance

[^7]:    All Prices Shown Include VAT. Standard Delivery Is Free. No Hidden Extras.

